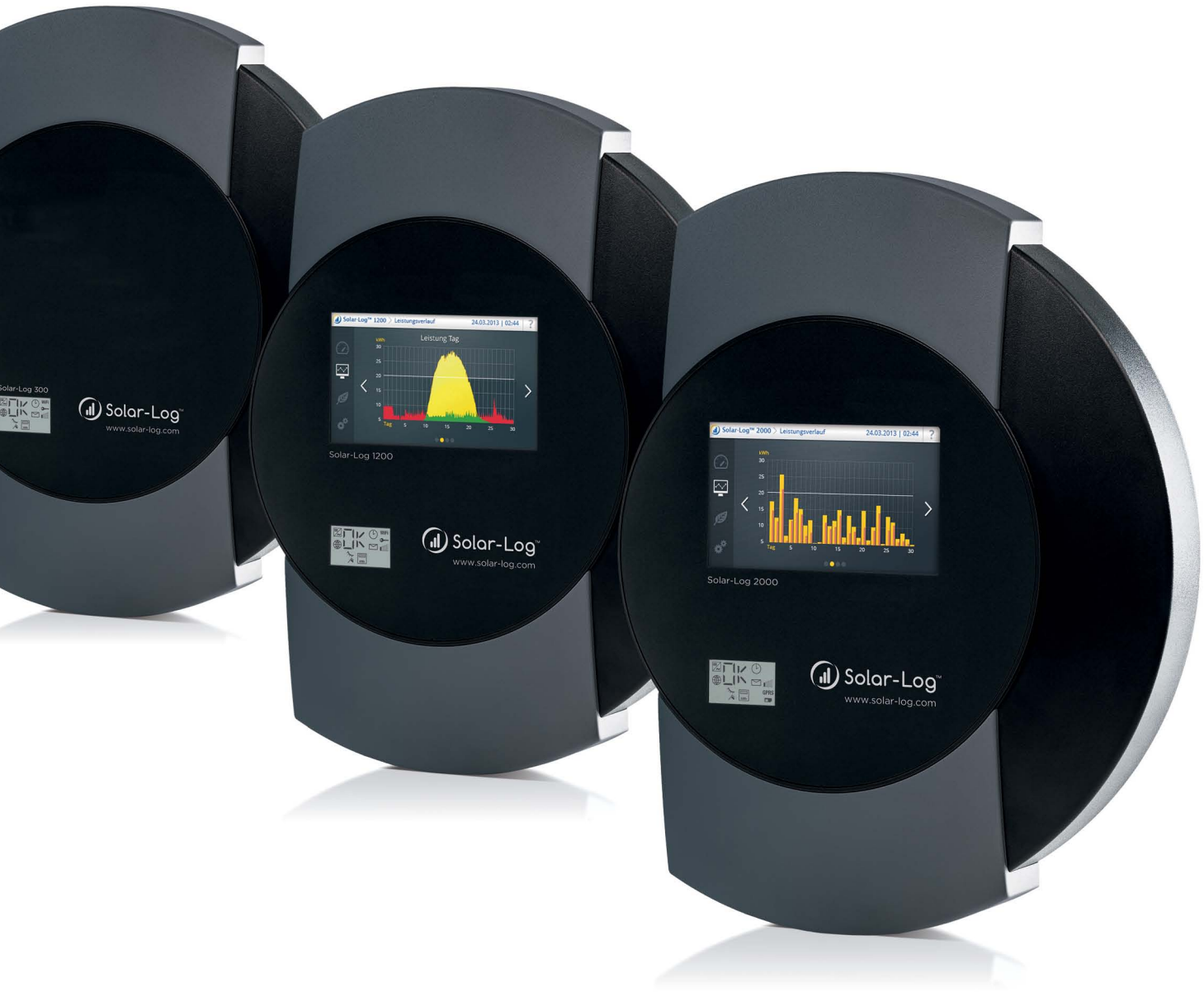
Solar-Log™




# User Manual

## Solar-Log 300, 1200 and 2000

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# 1 General Information

This user manual is intended to assist you in operating the Solar-Log 300, 1200 and 2000. The yield data from the Solar-Log300, 1200, 2000 can be displayed in several ways:

- via a web browser in a local network (LAN) (Chapter 2).
- via the touch screen directly on the device (Chapter 4)
- via the Internet (Chapter 5) or
- with the Solar-Log™ App (Chapter 6 and 7).

## 1.1 The necessary steps for precision monitoring of your PV plant with the Solar-Log™ .

- Connecting and detecting inverters, refer to the Inverter Connection Manual and the Configuring connected devices chapter in the Installation Manual.
- Configuring inverters, generator output, MPP Trackers and module fields, refer to the Configuring connected devices chapter in the Installation Manual.
- Configuring the notification function and status messages from the inverter, refer to the Configuring Notifications chapter in the Installation Manual.
- Activating and configuring performance monitoring, refer to the Configuring connected devices chapter in the Installation Manual.

Note:

The Solar-Log needs a continuous supply of electricity to avoid data loss and to ensure precision monitoring of the PV plant

# 2 Operating via a web browser within your own network

## 2.1 Requirements

Information

For faster access, enter "solar-log" in the address bar of the web browser and create a bookmark.

### In a local network (LAN)

To operate the Solar-Log 300, 1200 and 2000 via a web browser, you need a computer that is connected to the same local network (LAN). This computer will also need to have a  web browser installed on it.
The Solar-Log unit also has to be connected to this network with the proper network settings.

### Via the Internet

In addition to a computer with a web browser, you need an Internet connection as well as a user account.
To set up a user account, please contact your installer or see our website for more information:
http://www.solar-log.com/en/products-solutions/solar-log-web.html

## 2.2 Overview

### 2.2.1 Start page

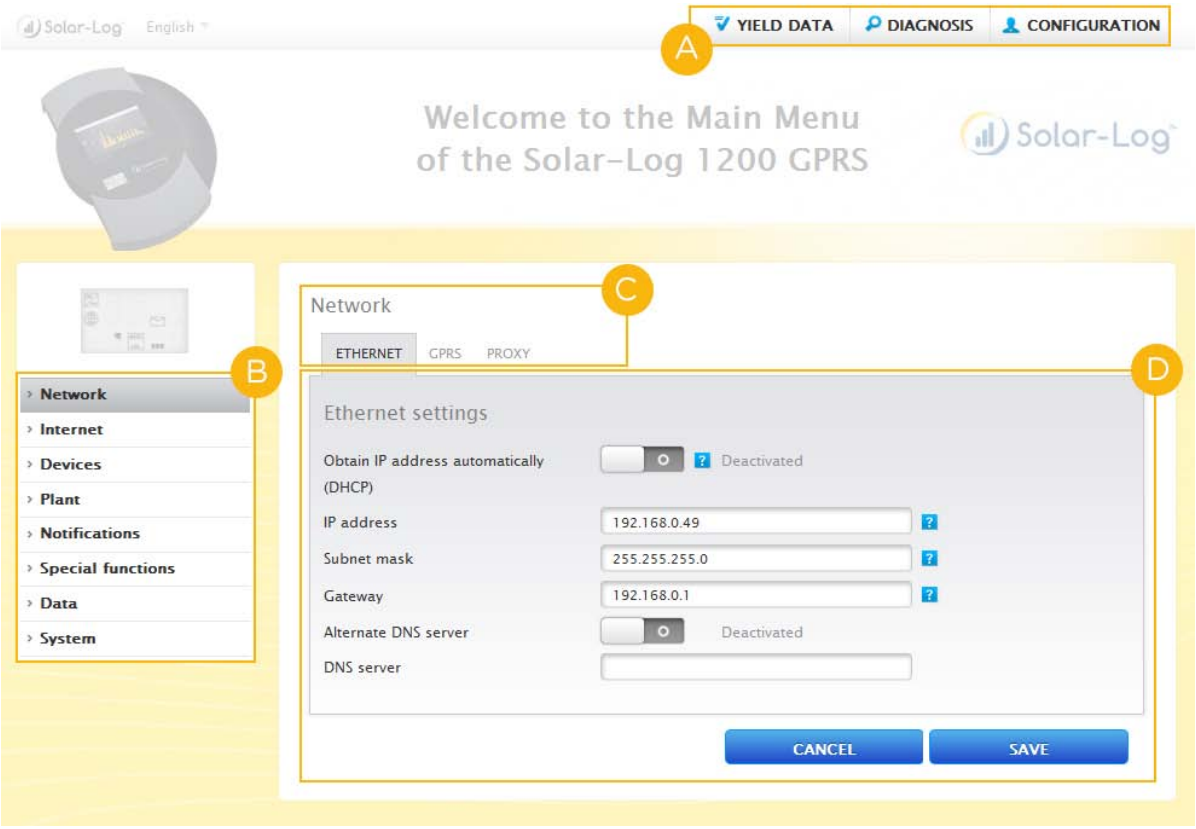



Fig.: Navigation designations

The start page contains the following sections:

- Header bar (A)
- Left navigation (B)
- Tabs (C)
- Configuration page (D)

#### Header bar

The header contains three main sections:

- Yield data - Here you can view your plant's yield overview and have the option to select different periods of time such as day, month, year and the total yield to date.
- Diagnostic - Here you can view the fault and process messages and filter them according to various criteria.
- Configuration - Here you can change the device settings as required.

#### Left navigation menu

Depending on the tab selected, you can access additional functions from the navigation menu (left-side).

#### Tabs

Additional configuration sections appear according to the function selected.

#### Configuration page

Here, you can make necessary configurations for the optimal monitoring and evaluation of your plant. You can also view information on the power output, yields and the device.

## 2.3 Accessing the Start page

Start your web browser and enter "solar-log" in the address bar of the web browser or select the bookmark in the browser's navigation bar. If there are several Solar-Log™ devices connected to the network, enter http://solar-log-wxyz in the address bar. Here “wxyz” stands for the last 4 digits of the serial number of the Solar-Log™.

- The welcome screen is displayed.

Fig.: Welcome screen

The following navigation menus can be selected from the header bar:

- Yield data
- Diagnostic
- Configuration

## 2.4 Accessing Yield data

Access the yield data from the header bar.
The following options can be selected from the left-side navigation menu:

- Current values
- Production
- Consumption (only appears when a consumption meter is connected)
- Balances
- Finances
- Sensor (only appears when a sensor is connected)
- System Information

### 2.4.1 Current values

Select the Current values menu to see the plant's new Dashboard view.

Fig.: The plant's current values

The following values are displayed in a tachometer format:

- Consumption (only when consumption meters are connected). This displays the current consumption.
- Production (output generated by the plant). This displays the current production.
- Feed-in amount (only when meters are connected). This displays current amount of grid feed.

There are two graphs below the Dashboard display

- The current day curve (graph on the left). There is also the option to display the previous five days as a curve in this graph. Just click on the day value in the graph on the right.
- The current day value as well as those from the previous 5 days (graph on the right). Move the mouse above one of the bars to display the day value. Click on one of the bars to have it display in the graph on the left as a curve.

Below the graphs, there is a table that displays the measured output from the devices connected:

- The current output from each individual inverter.
- The total current consumption as measured by the consumption meters.
- The current irradiation per $m^2$ as measured by the sensor.

## 2.5 Production

You can select a graphic display of your plant's production from the Production menu.

Fig.: Graphic display of the plant's total production

You can select the following tabs:

- Day
- Month
- Year
- Total

You can select to display the view as a graph or table. The values displayed in the graph or table depend on the view selected.

### 2.5.1 Day view

The Day tab displays the current day as a curve graph. The output (W) and yield (kWp) values, at the top left of the graph key, can be hidden and unhidden by click on them with the mouse.
The different values throughout the day can be displayed by moving the mouse along the curve.

Fig.: Day view of the production graph

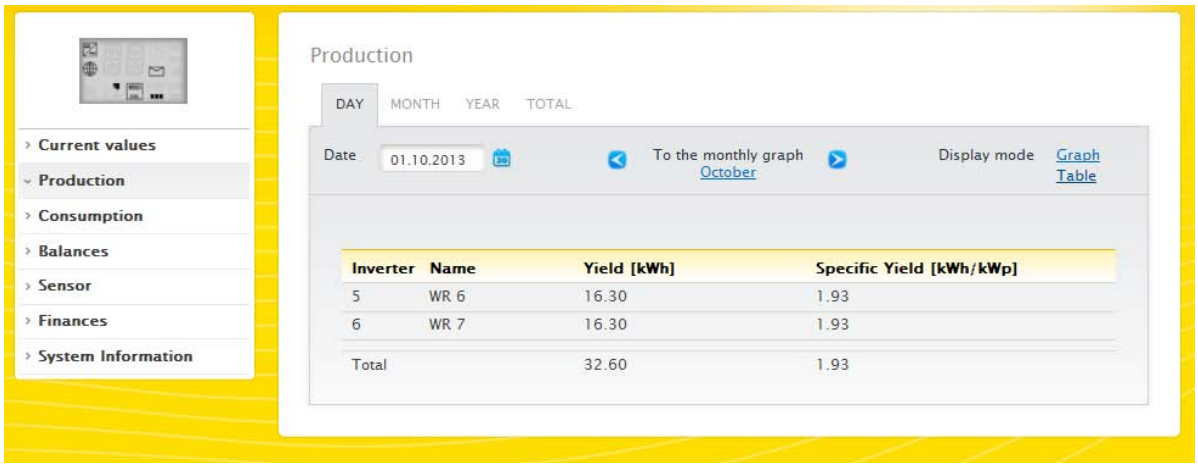



Fig.: Day view of the production table

When you click on Table, the values from the current output generated will be allocated to the individual inverters and displayed as a table. In this way, you can check the output of every inverter at any time.

## 2.5.2 Month view

The Month tab displays the daily yields from the month as a total in a bar graph.

- The daily yield can be displayed by moving the mouse above one of the bars.
- Click on a bar to go to the corresponding day view.

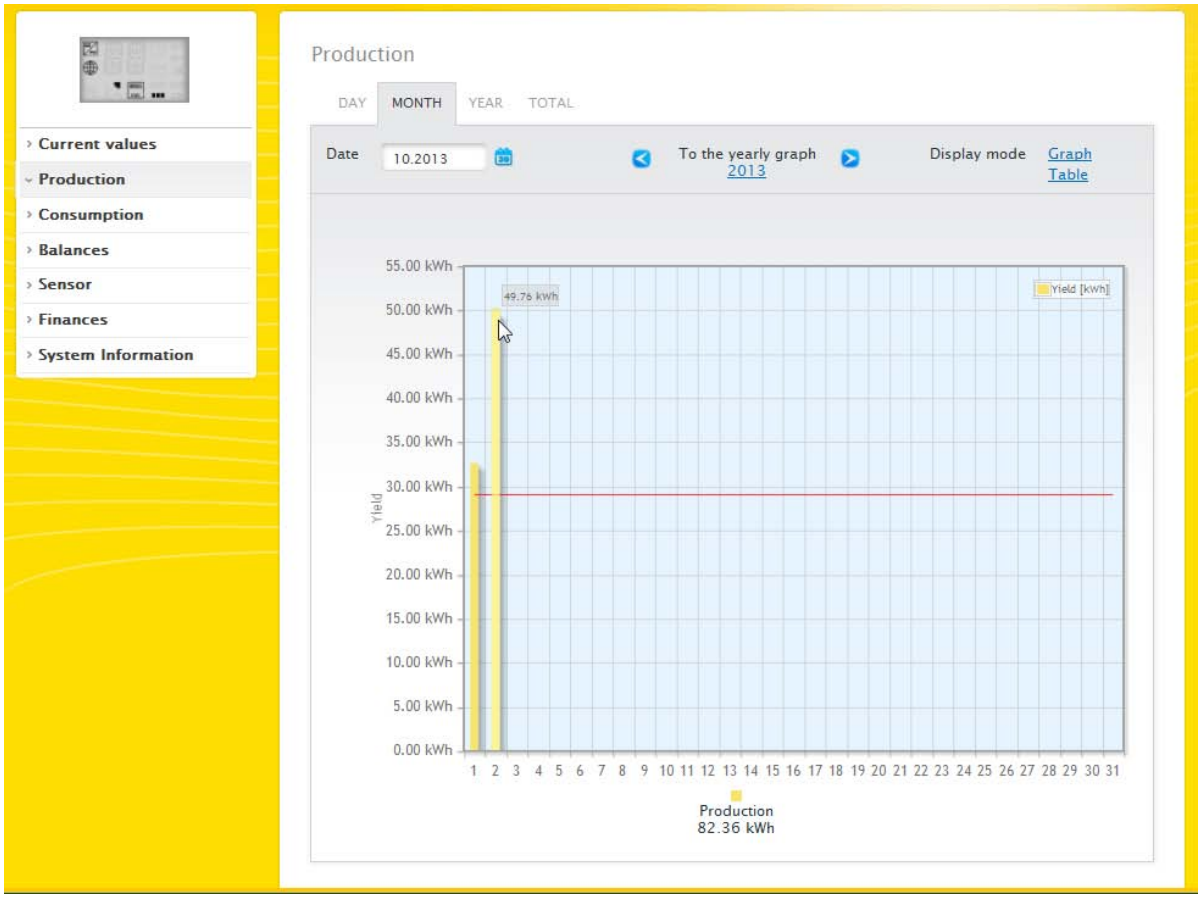



Fig.: Month view production graph

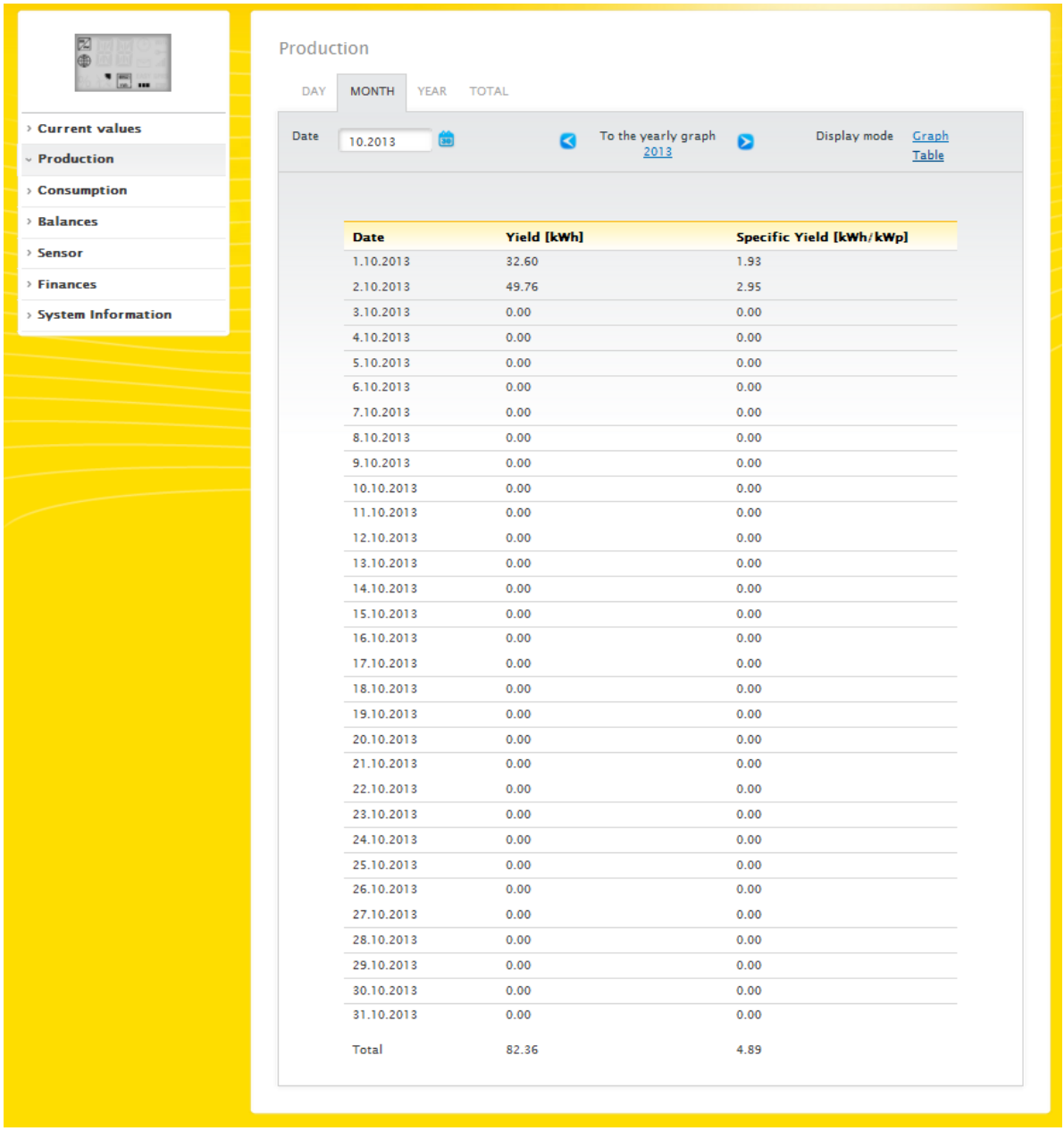



Fig.: Month view of the production table

When you click on Table, the date and daily output will be listed for the entire month.

## 2.5.3 Year view

The Year tab displays the monthly yields from the year as a total in a bar graph.

- Move the mouse above one of the bars to display the monthly yield with a comparison of the current and target values in regard to the annual forecast.
- Click on a bar to go to the corresponding month view.

Fig.: Year view graph

When you click on Table, the annual values for the entire year are allocated to each month according to the actual output generated.

## 2.5.4 Total view

The Total tab displays the annual yields as a total in a bar graph. The red line displays the target balance that is calculated according to the annual forecast.

- Move the mouse above one of the bars to display the annual yield with a comparison of the current and target values in regard to the annual forecast.
- Click on a bar to go to the corresponding year view.

Fig.: Total view graph

Table:

The plant's total power output (since the monitoring started) is allocated every year according to the output generated.

The Date box is included in the day, month and year view and has a calendar function with which you can search for certain days, months or years according to the view selected. You can go backwards and forwards within the selected period with the arrow keys for the previous or next day or week.

## 2.6 Consumption

From the Consumption menu, you can view the exact consumption from appliances that are connected via networked "smart plugs" with the Solar-Log 1200 and 2000, relays or the Solar-Log™ Meter.

Note!

Consumption is only displayed once a meter is connected.

The day view can be selected from the Consumption menu. This view is shown as a graph and has two parts.
In the top part, the connected devices are displayed individually according to color with their consumption throughout the day.
In the bottom part, the power consumption of the individual devices is displayed as a percentage in a pie chart.
You have the option to view the data as a table from every view. In this view, the power consumption of the individual devices connected is displayed as a table according to the tab selected (Day, Month, Year or Total).

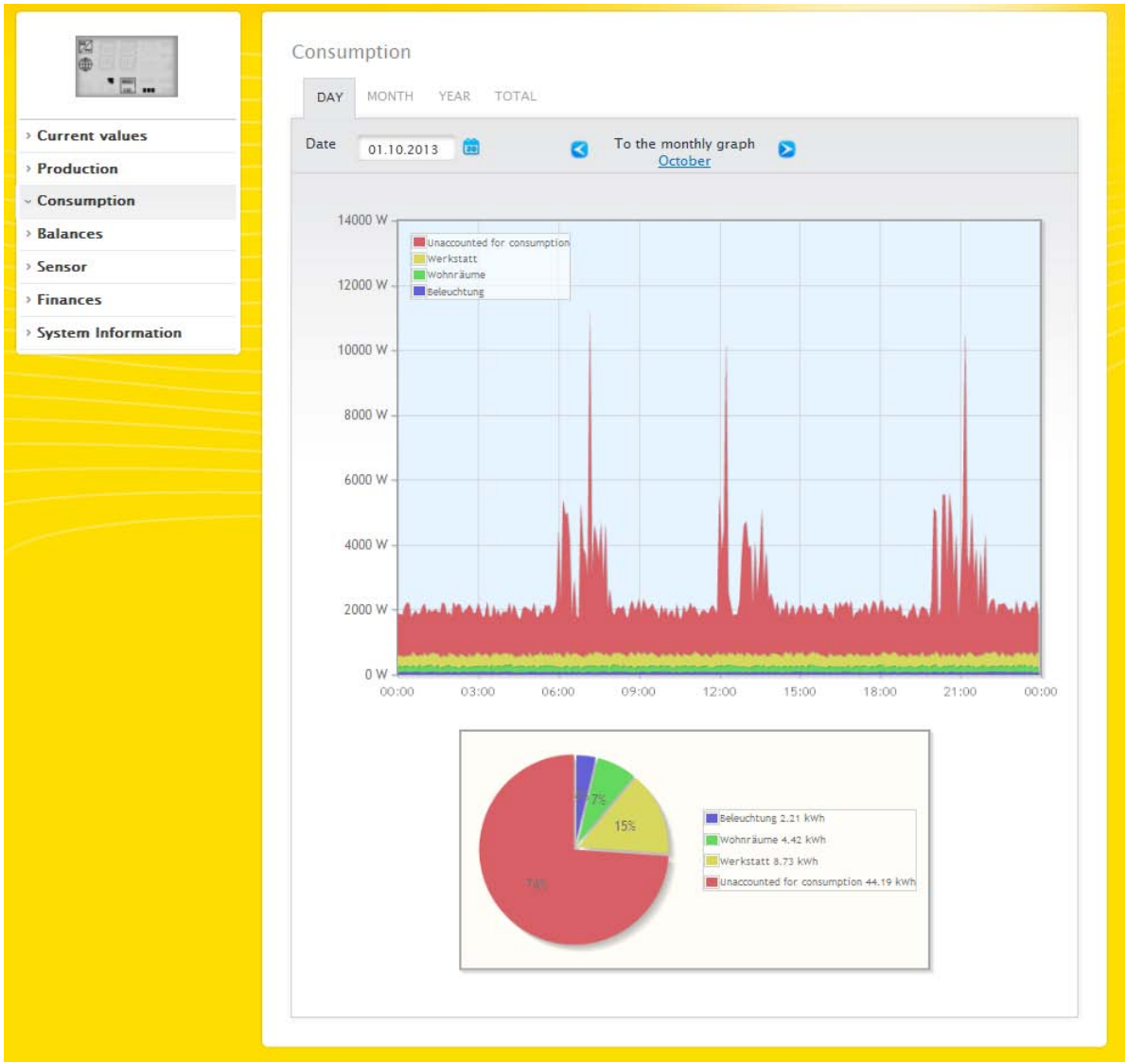



Fig.: Graph of the daily consumption from the connected appliances

With this display mode, you have the option to select additional tabs.

- Month:

This displays the graph view in two parts. In the top part, you see the devices connected as a bar graph with the power consumption displayed in different colors.
In the bottom part, the devices connected are displayed as a percentage in a pie chart.
The additional table view option can be selected with the display mode on the bottom-right corner.

- Year:

This displays the graph view in two parts.
In the top part, you see the devices connected as a bar graph with the power consumption displayed in different colors. In the bottom part, the devices connected are displayed as a percentage in a pie chart.
The additional table view option can be selected with the display mode on the bottom-right corner.

- Total:

THis displays the graph view in two parts. In the top part, you see the connect devices as a bar graph with the power consumption displayed in different colors.
In the bottom part, the connected devices are displayed as a percentage in a pie chart.
The additional table view option can be selected with the display mode on the bottom-right corner.

## 2.7 Balances

You can see the relationship between your plant's production and consumption from the Balances menu.

Note!

Consumption is only displayed once a meter is connected.

Fig.: Balances graph

The following tabs can be selected:

- Day
- Month
- Year
- Total

The start view displays the current daily values as a graph.

## 2.7.1 Day balance

The Day tab under Balances displays the production, consumption and self-consumption side-by-side as a day curve. The values at the top left of the graph key can be hidden and unhidden by clicking on them. The different values throughout the day can be displayed by moving the mouse along the curve.

Fig.: Day balance graph

The green areas display the amount of consumption that was covered with PV power. The yellow areas displays the surplus of PV generated power and the red areas display the amount of consumption that was not covered with PV power.
You have a choice between the Graph and Table display mode.

## 2.7.2 Month balance

The Month tab under Balances displays the production and consumption side-by-side in a bar graph.

- Move the mouse above one of the bars to view either the daily yield or consumption.
- Click on one of the bars to go to the corresponding day view.

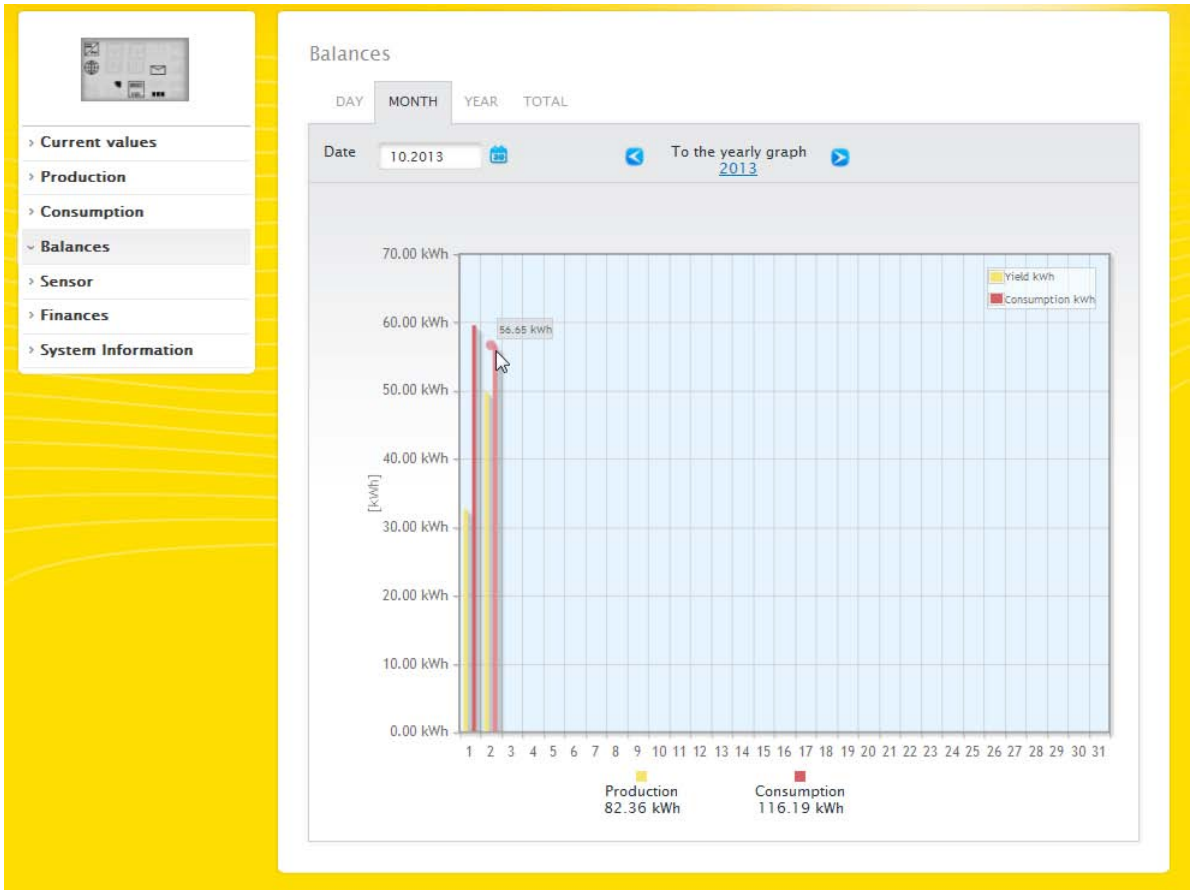



Fig.: Month view balance graph

## 2.7.3 Year balance

The Year tab under Balances displays the production and consumption side-by-side in a bar graph.

- Move the mouse above one of the bars to view either the monthly yield or consumption with a comparison of the current and target values in regard to the annual forecast.
- Click on one of the bars to go to the corresponding month overview.

Fig.: Year view balance graph

## 2.7.4 Total balance

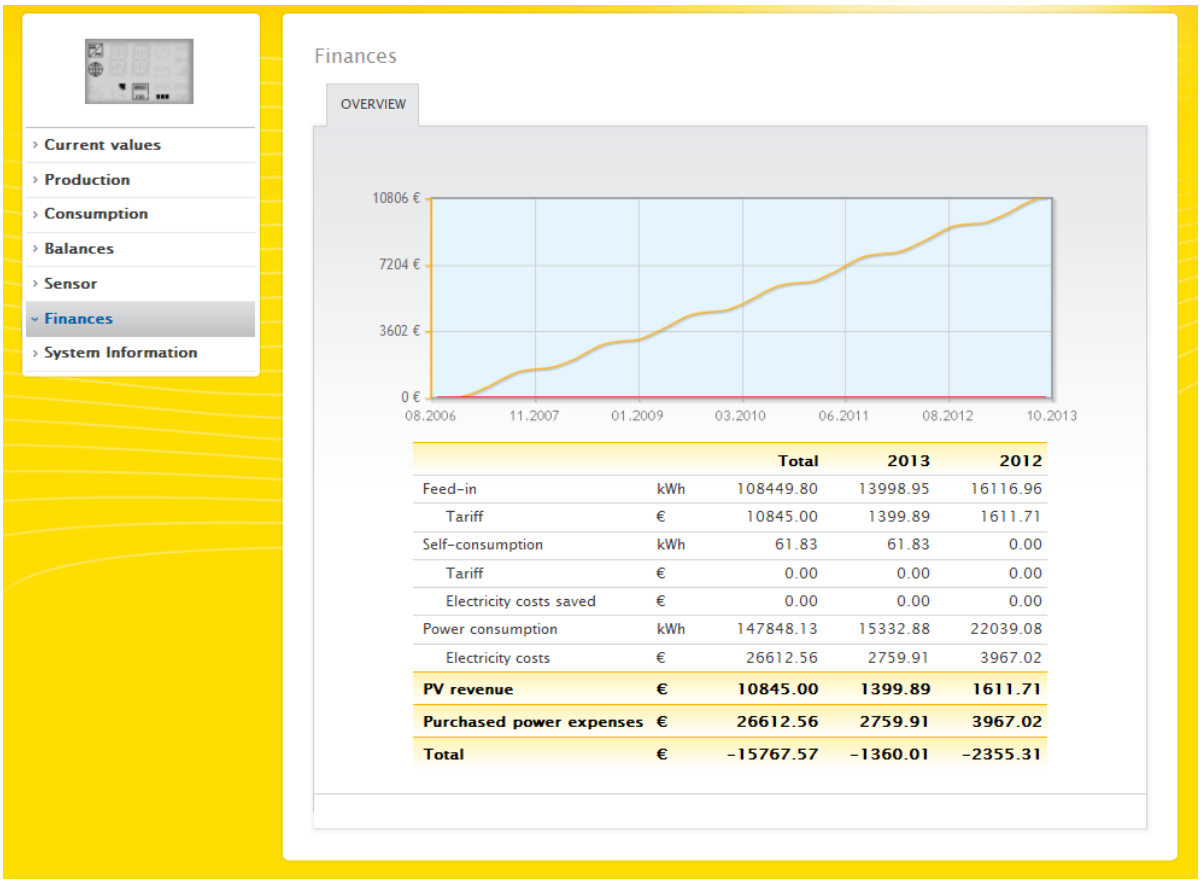
The Total tab under Balances displays the production and consumption side-by-side in a bar graph.

- Move the mouse above one of the bars to view either the annual yield or consumption with a comparison of the current and target values in regard to the annual forecast.
- Click on one of the bars to go to the corresponding annual overview.

Fig.: Total balance graph

## 2.8 Finances

Your plant's financial performance can be displayed as a graph or table from the Finances menu. (See the chapter "Defining Tariffs and Costs" in the Installation Manual to configure of the tariff and consumption values)




| | | Total | 2013 | 2012 |
|---|---|---|---|---|
| Feed-in | kWh | 108449.80 | 13998.95 | 16116.96 |
| Tariff | € | 10845.00 | 1399.89 | 1611.71 |
| Self-consumption | kWh | 61.83 | 61.83 | 0.00 |
| Tariff | € | 0.00 | 0.00 | 0.00 |
| Electricity costs saved | € | 0.00 | 0.00 | 0.00 |
| Power consumption | kWh | 147848.13 | 15332.88 | 22039.08 |
| Electricity costs | € | 26612.56 | 2759.91 | 3967.02 |
| **PV revenue** | **€** | **10845.00** | **1399.89** | **1611.71** |
| **Purchased power expenses** | **€** | **26612.56** | **2759.91** | **3967.02** |
| **Total** | **€** | **-15767.57** | **-1360.01** | **-2355.31** |

Fig.: Finances overview

The total financial performance of your plant is displayed as a graphic with the actual/target value curve in the overview.
The following values are listed in the table:

- Feed:

This displays the amount of power in KWh that has been fed into the grid and also calculates the value into your local currency.

- Self-consumption:

This displays the amount of self-consumption in KWh and also calculates the value into your local currency.

- Power consumption:

This displays the amount of power consumption that has been purchased in KWh and also calculates the value into your local currency.

The totals are automatically calculated at the bottom of the table based on the PV revenue and purchased power expenses.

Note!

The graphical overview under the menu selection “Yield Data | Finances” is not visible until several weeks of data logging have gone by.

## 2.9 Sensor

A graphic evaluation from the connected sensors can be displayed from the Senor menu.

Fig.: Graph of Sensor Box values

The following values can be displayed individually:

- Irradiation W/m
- Module temperature C°
- Ambient temperature C°
- Wind speed m/s

The individual values at the top left of the graph key can be hidden and unhidden by clicking on them. You can select and subsequently evaluate certain days with the Date box.

Note!

Data is only available if a sensor is connected.

## 2.10 System Information

Go to the System information menue to view plant and system information.

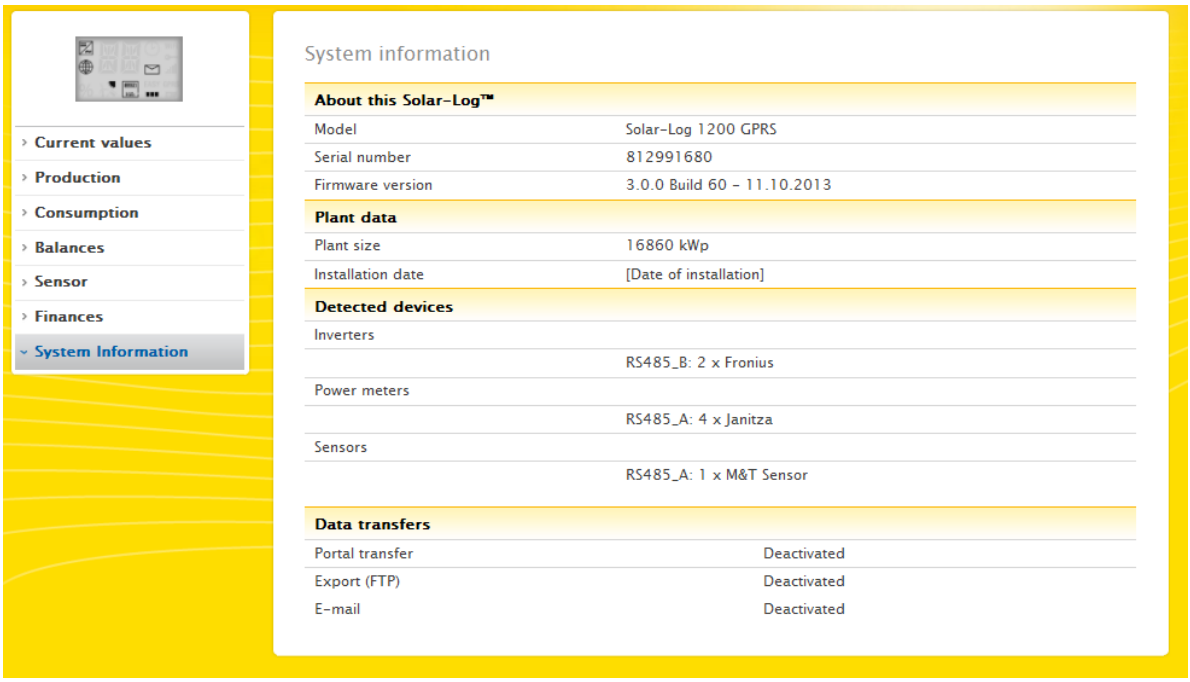



Fig.: System Information

The following information is displayed:

About this Solar-Log™:

- Model
- Serial number
- Firmware version

Plant data:

- Plant size
- Installation date

Detected devices:

- Inverters
- Power meters
- Sensors

## 2.11 Accessing Diagnostic values

Access the Diagnostic from the header bar.
The following options can be selected from the left-side navigation menu.

- Inverter diagnostic
- Event log
- Notifications
- Feed-In Management
- SCB Monitor (only Solar-Log 2000 with SCB activated)
- Alarm contact (only Solar-Log 2000)
- CSV Export

### 2.11.1 Inverter diagnostic

To access the Inverter diagnostic menu, go to Diagnostic | Inverter Diagnostic.

The following tabs can be selected from this menu:

- Inverter details
- Tracker comparison
- Module field comparison

#### Inverter details

To access the Inverter details menu, go to Diagnostic | Inverter Diagnostic | Inverter details.
A particular date and device (e.g. inverter or sensor) can be selected under inverter details and evaluated.

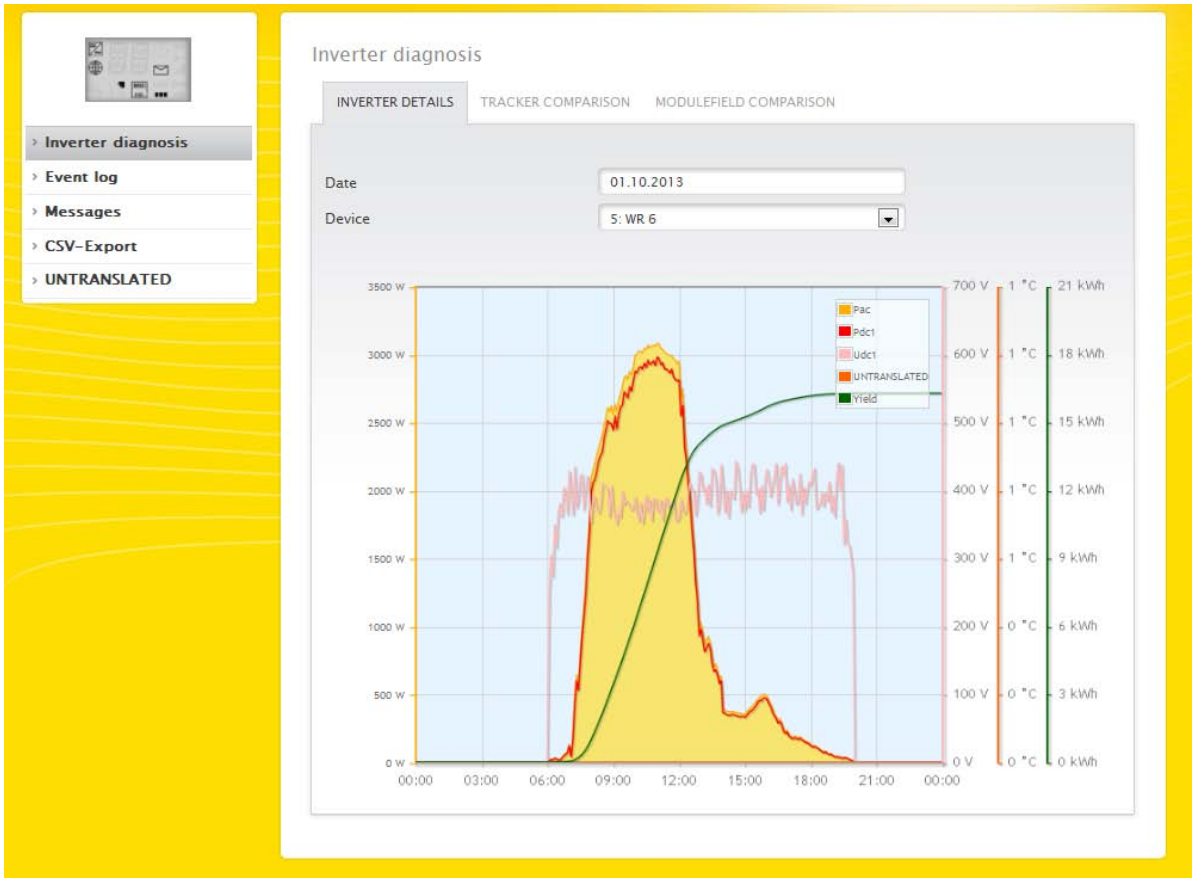


Fig.: Inverter details graph

In the example (see Fig.: Inverter details graph), the following values can be displayed for the inverter:

- Pac
- DC power 1
- DC voltage 1
- Temperature (this value is displayed if the inverter supports this function. Otherwise only the value 1/0 C° is displayed in the graph)
- Yield

All of the displayed values can be directly selected and deselected at any time by clicking in the graph key (upper-right corner of the graph).

## Tracker comparison

To access the Tracker comparison menu, go to Diagnostic | Inverter Diagnostic | Tracker comparison. Two trackers (either from the same device or two different devices) can be compared on a particular date by selecting the date, device and Tracker.

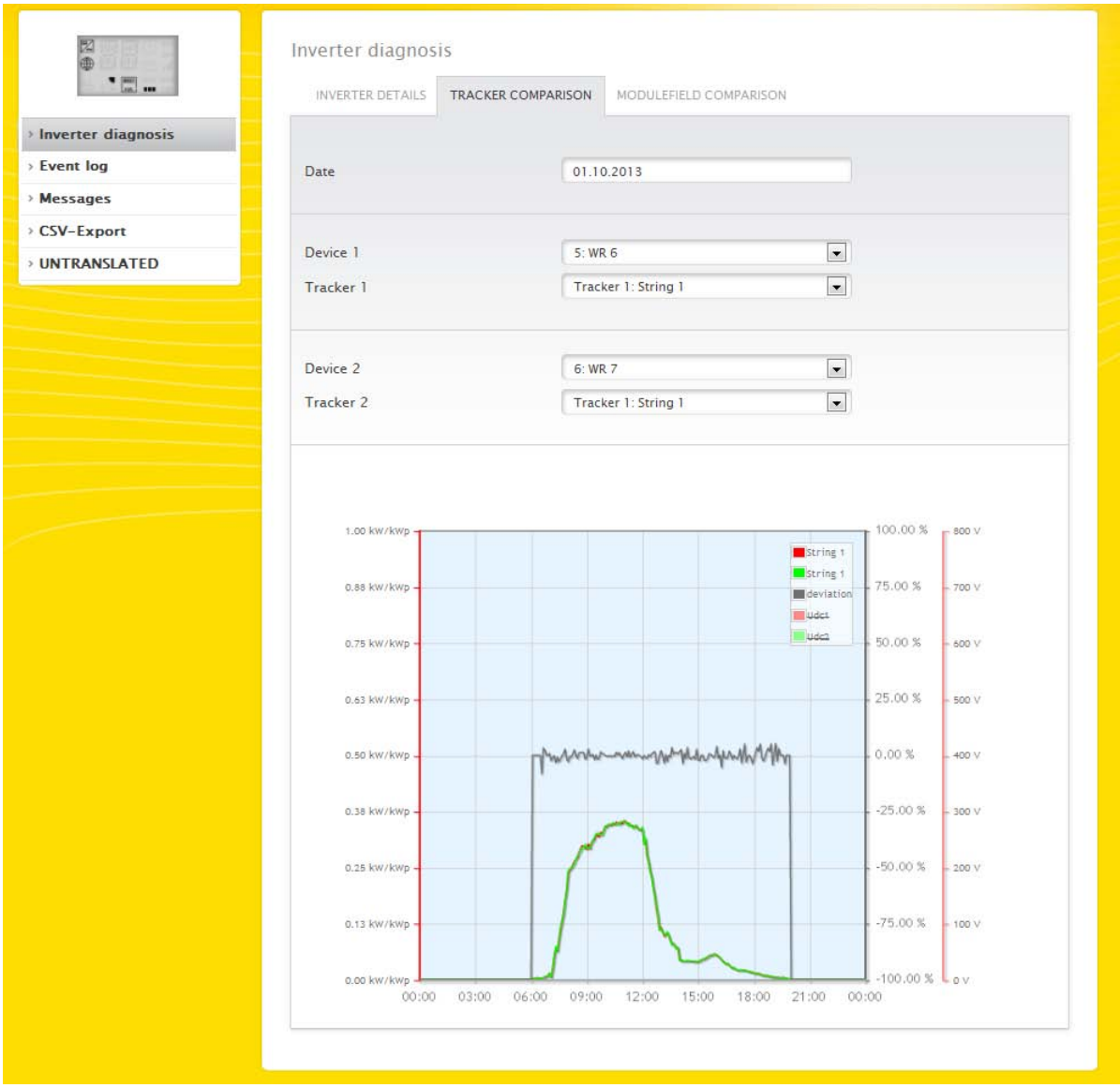



Fig.: Tracker comparison graph

In the example (see Fig.: Tracker comparison graph), two different inverters have been selected and evaluated*** and the better view has been selected for the DC voltage 1 and 2 values.

The two strings from inverter 6 and 7 are directly compared to each other.
The gray line displays the degree of deviation. The deviation as a percentage is indicated in the right column. The deviation is displayed as a positive or negative percentage. In the example, the deviation between the strings is from about -5% to +5%. The column on the left indicates the kW/kWp output of the tracker.
In the graph legend (upper-right corner of the graph), all of the displayed values can be directly selected and deselected at any time with a mouse click.

## Module field comparison

To access the Module field comparison menu, go to Diagnostic | Inverter Diagnostic | Module field comparison.

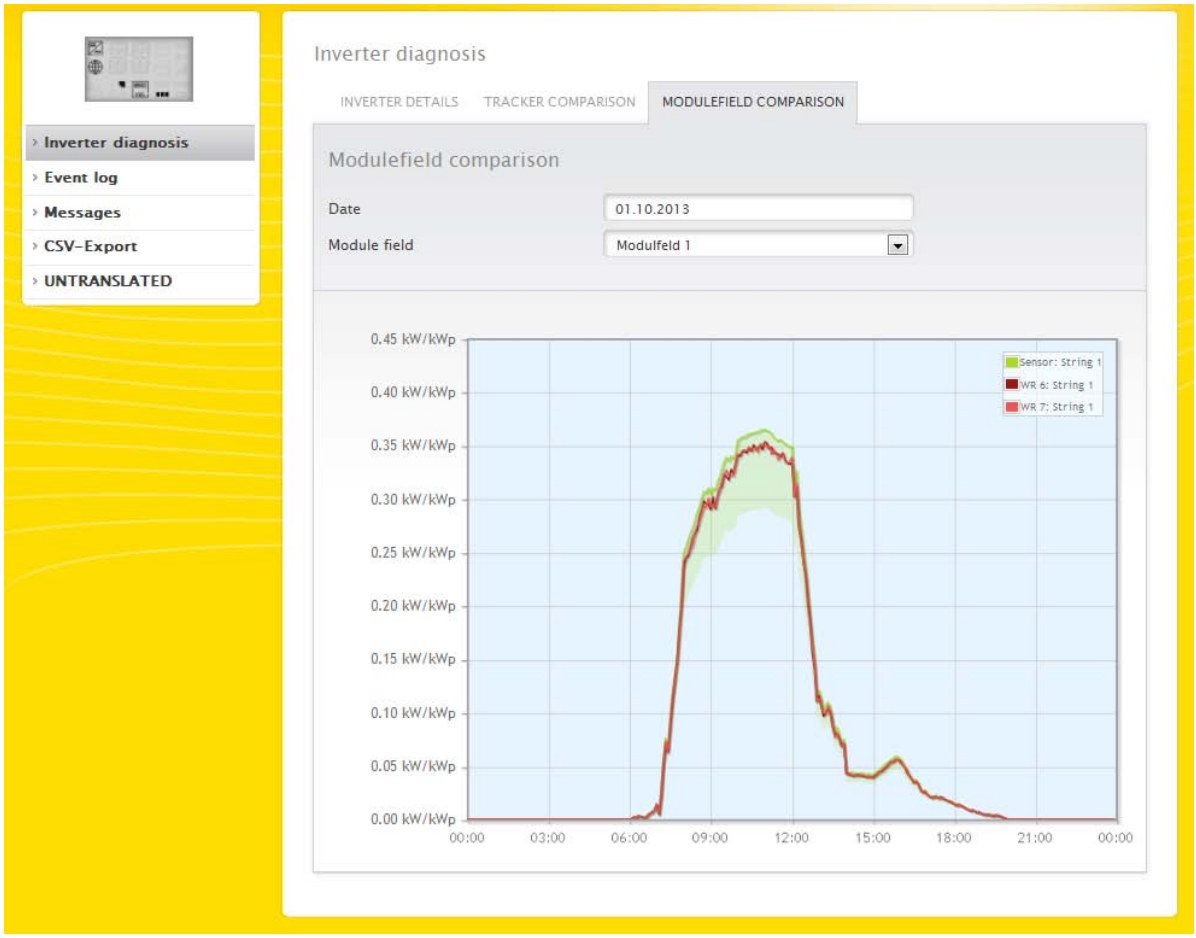



Fig.: Module field comparison graph

With the date and Module Field boxes, the module field comparison permits all devices (e.g. inverters and sensors) and their strings that are assigned to the same module field to be compared on the current and previous days (see Fig.: Module field comparison graph) in order to more efficiently detect faults from the performance monitoring.
In the example graph, the following values are displayed:

- Sensor
- Inverter 6
- Inverter 7

The gray areas along the course of the sensor line show the range of tolerance in which the plant should operate.
In the graph legend (upper-right corner of the graph), all of the displayed values can be directly selected and deselected at any time by clicking in the graph key (upper-right corner of the graph).

## 2.11.2 Accessing Event logs

To access the Event logs menu, go to Diagnostic | Event logs.
By accessing the event logs, this loaded in the following mode. ***

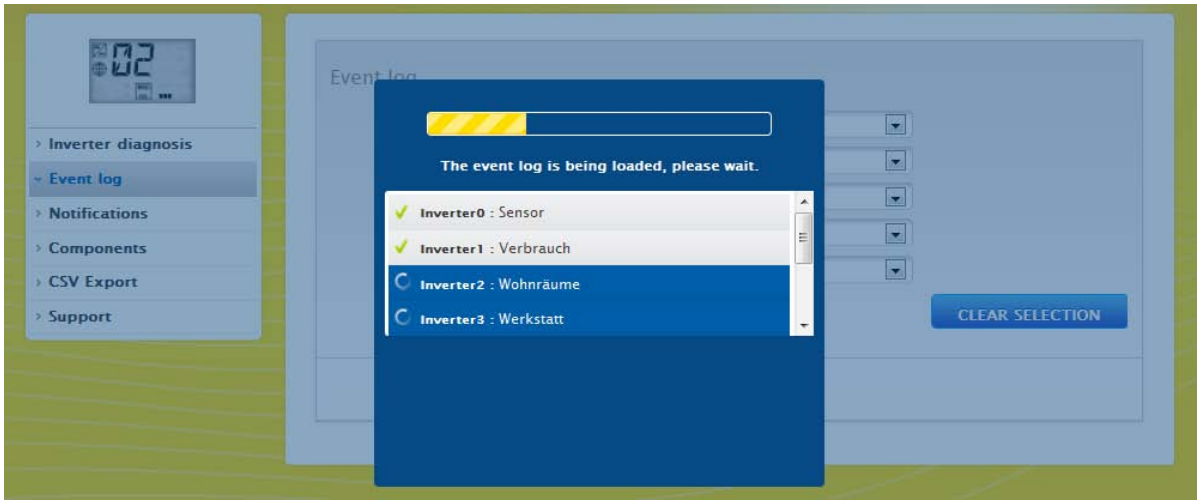



Fig.: The event log is being loaded.

After the event log has been loaded, the window switches back to the normal view.

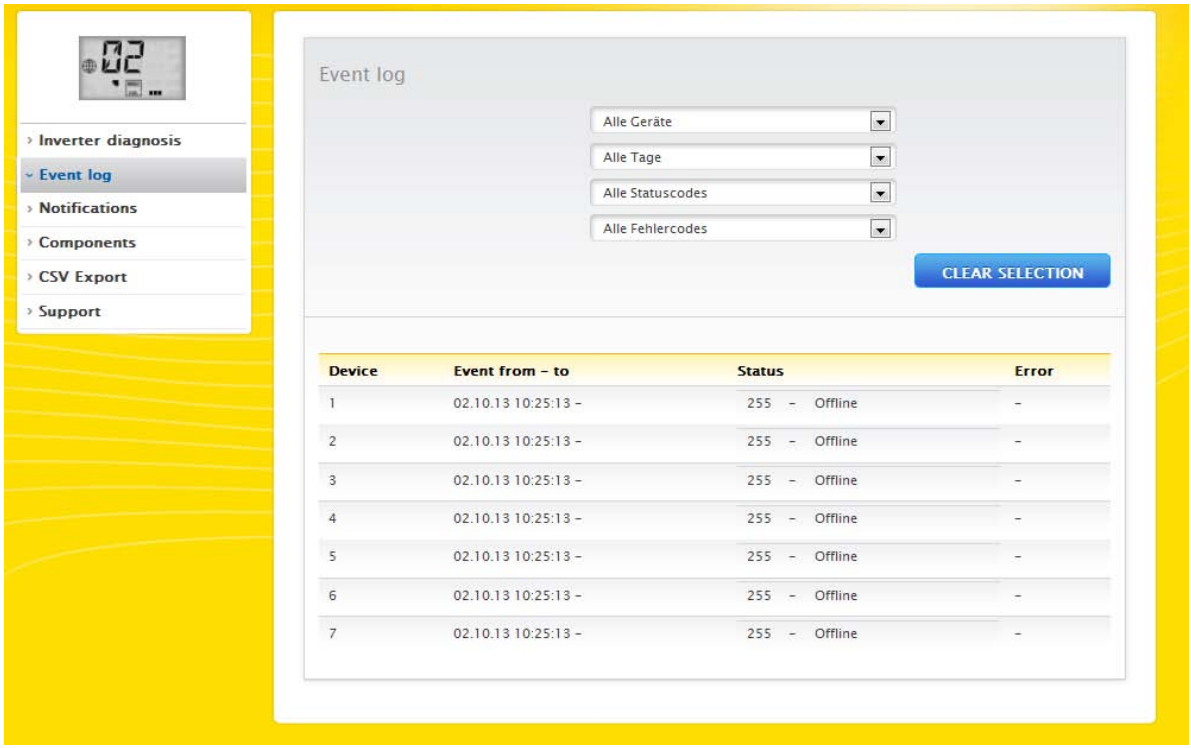



Fig.: Event log

The following settings are available from the four drop-down menus in this view:

- Devices:

Under devices, you can select individual devices or leave the default selection as is. (default “All devices”).

- Days:

Under days, you can select individual days or leave the default selection as is (default “All days”).

- Status codes:

Under status codes, you can select individual status codes or leave the default selection as is (default “All status codes”).

- Fault codes:

Under fault codes, you can select individual fault codes or leave the default selection as is (default “All fault codes”).
By default, the current day is displayed in the table with all devices, fault codes and status codes.

## 2.11.3 Accessing Notifications

To access the Notifications menu, go to Diagnostic | Notifications.

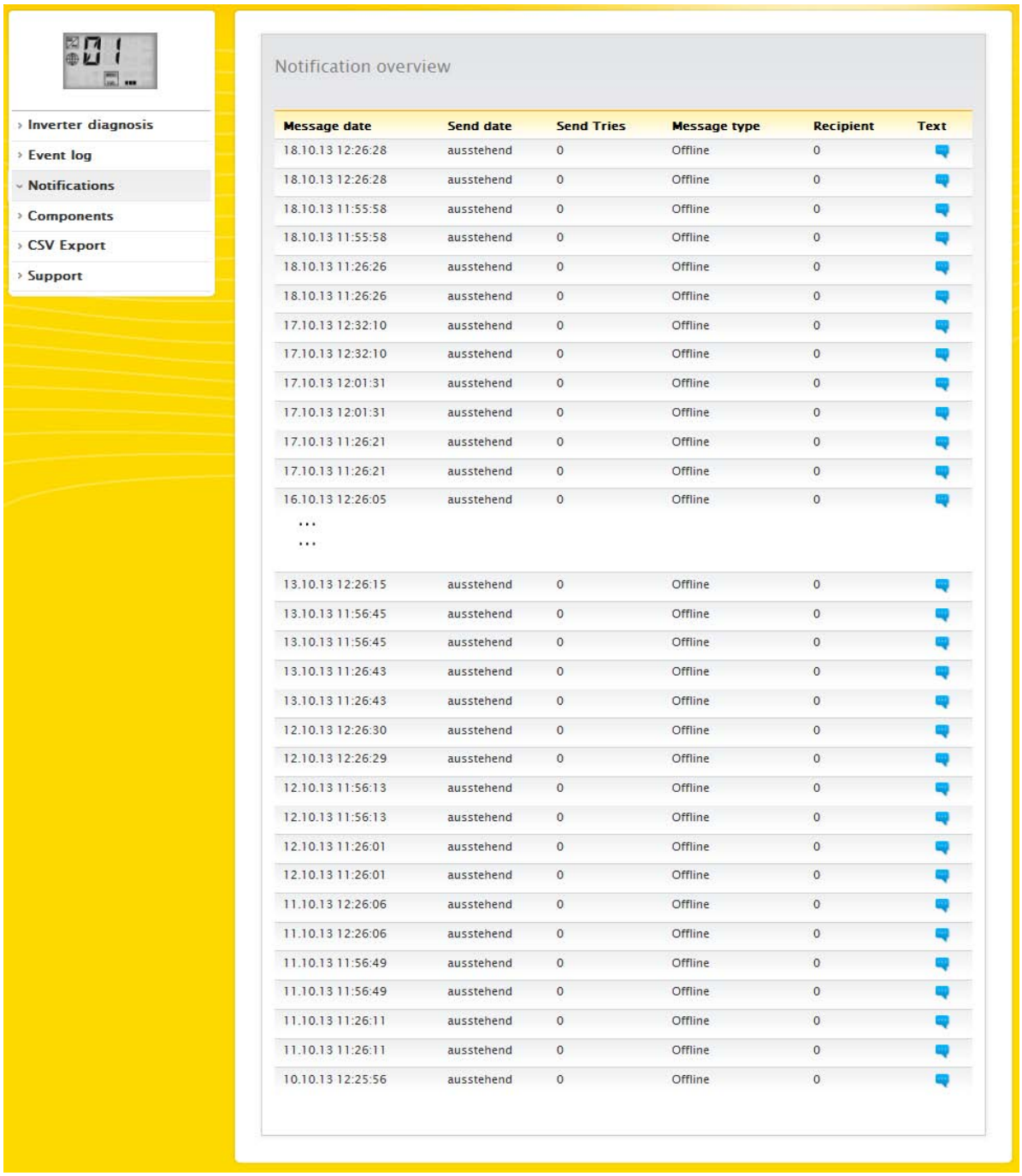

Inverter diagnosis
Event log
Notifications
Components
CSV Export
Support
Notification overview
Message date
Send date
Send Tries
Message type
Recipient
Text
18.10.13 12:26:28 ausstehend 0 Offline 0
18.10.13 12:26:28 ausstehend 0 Offline 0
18.10.13 11:55:58 ausstehend 0 Offline 0
18.10.13 11:55:58 ausstehend 0 Offline 0
18.10.13 11:26:26 ausstehend 0 Offline 0
18.10.13 11:26:26 ausstehend 0 Offline 0
17.10.13 12:32:10 ausstehend 0 Offline 0
17.10.13 12:32:10 ausstehend 0 Offline 0
17.10.13 12:01:31 ausstehend 0 Offline 0
17.10.13 12:01:31 ausstehend 0 Offline 0
17.10.13 11:26:21 ausstehend 0 Offline 0
17.10.13 11:26:21 ausstehend 0 Offline 0
16.10.13 12:26:05 ausstehend 0 Offline 0
13.10.13 12:26:15 ausstehend 0 Offline 0
13.10.13 11:56:45 ausstehend 0 Offline 0
13.10.13 11:56:45 ausstehend 0 Offline 0
13.10.13 11:26:43 ausstehend 0 Offline 0
13.10.13 11:26:43 ausstehend 0 Offline 0
12.10.13 12:26:30 ausstehend 0 Offline 0
12.10.13 12:26:29 ausstehend 0 Offline 0
12.10.13 11:56:13 ausstehend 0 Offline 0
12.10.13 11:56:13 ausstehend 0 Offline 0
12.10.13 11:26:01 ausstehend 0 Offline 0
12.10.13 11:26:01 ausstehend 0 Offline 0
11.10.13 12:26:06 ausstehend 0 Offline 0
11.10.13 12:26:06 ausstehend 0 Offline 0
11.10.13 11:56:49 ausstehend 0 Offline 0
11.10.13 11:56:49 ausstehend 0 Offline 0
11.10.13 11:26:11 ausstehend 0 Offline 0
11.10.13 11:26:11 ausstehend 0 Offline 0
10.10.13 12:25:56 ausstehend 0 Offline 0

Fig.: Notification overview

The notification overview is displayed as a table.
A maximum of 50 messages are displayed in this table. The following columns are displayed:

- Message date:

This column is when a fault was detected and reported.

- Send date:

This column displays the date when the message has been successfully sent. Pending is displayed in this column if there are more send attempts remaining, or aborted after 5 unsuccessful attempts to send the message.

- Send Tries:

This column displays the number of attempts needed to successfully send the message; if still “pending,” the current number of unsuccessful attempts is displayed in this column. It is reported as “aborted” after 5 unsuccessful attempts to sent the message. The number 1 to 5 can be displayed in this column if there are still more send tries remaining (“pending”).

- Message type:

This column displays the message type. (for example: Offline. If an inverter is offline)

- Recipient;

The method in which the message is sent is displayed under Recipient.

- Text:

There is the option to display the messages sent by the Solar-Log™ under Text.

Note!

For sending notifications, see the chapter "Configuring Notifications" in the Installation Manual.

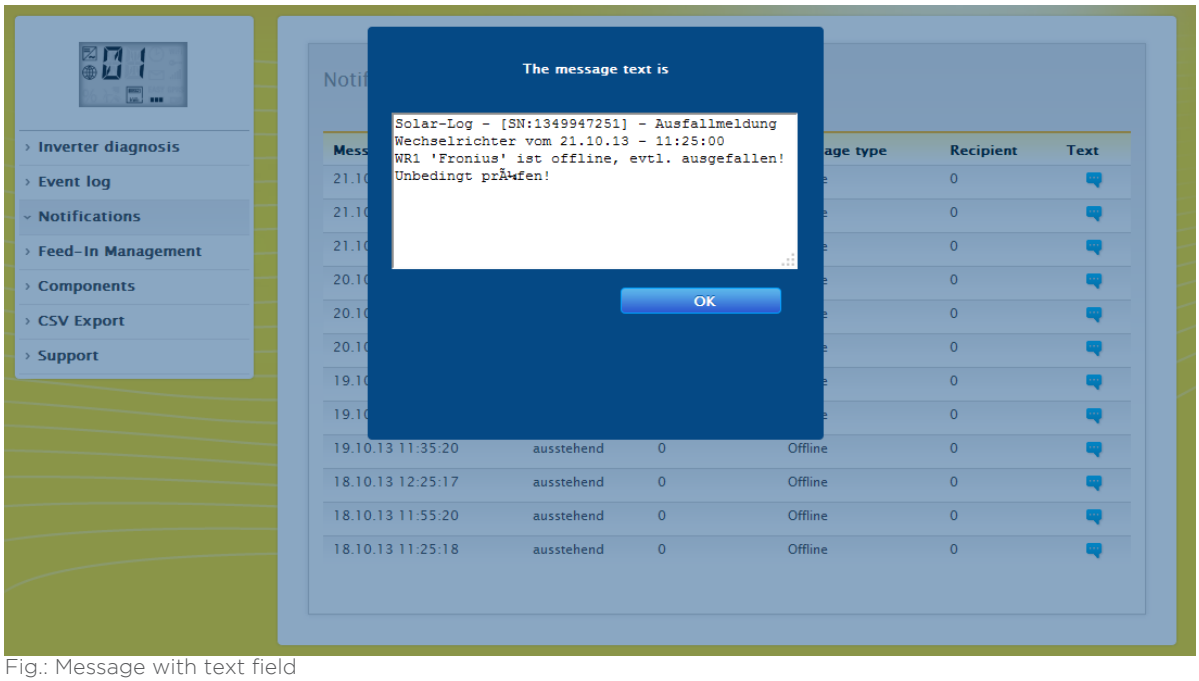



Fig.: Message with text field

## 2.11.4 Accessing Feed-In Management

To access the Feed-In Management menu, go to Diagnostic | Feed-In Management.

Note!

The menu Feed-In Management under Diagnostic | Feed-In Management only appears if active power has been configured in the Configuration | Special Functions | Feed-In Management section.

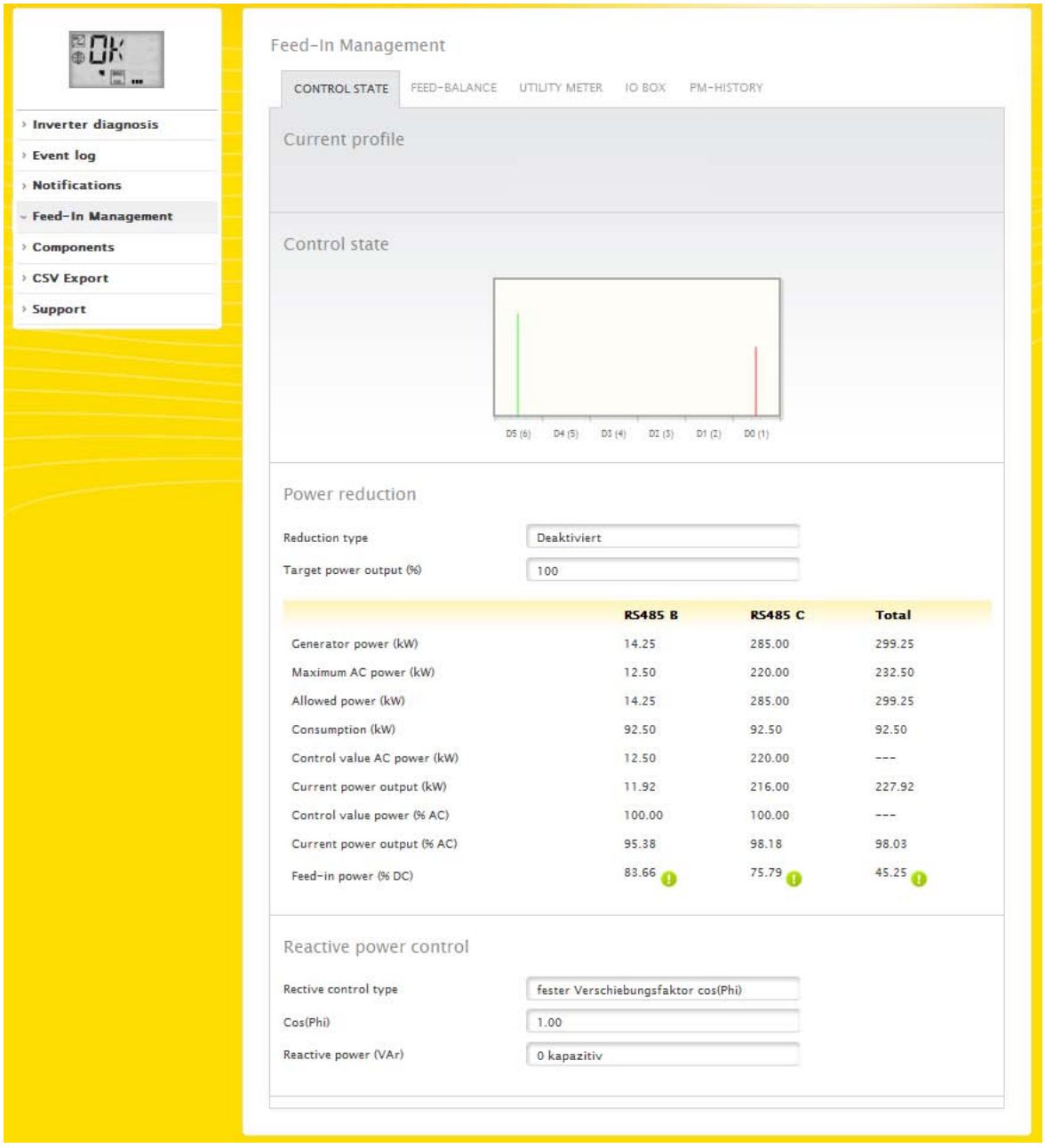



Fig.: Feed-In Management - Control State

The inverter control can analyzed and adjusted in the Diagnostic | Feed-In Management section.

## Explanation of the Symbols and Values in the Power Reduction Section

The following values are displayed in the Power Reduction section:

### Type of Reduction:

The type of reduction configured in Configuration | Special Functions | Feed-In Management is displayed here.

### Target power output %:

The current reduction level is displayed here as a percentage of the power output.

The detailed values for the individual bus connections and for the total plant are displayed in the following table. The individual buses (RS485 a-c) are displayed depending on which bus is assigned to control the inverters.

The column Total always corresponds to the plant total and reflects the value from the the grid connection point. The consumption values are displayed in all of the columns, but only the plant total is taken into account.

Note!

The values from the individual inverters are calculated per bus and for the entire plant.

### Generator power (kW):

The generator power corresponds to the module output of the inverter that is connected to this data bus. This value results from the total of the partial outputs entered in the field generator power under configuration | Devices | Configuration. This kW values is used when calculating the output reduction (e.g.: the 70% reduction).

### Maximum AC power (kW):

The maximum AC power of the inverter(s) depends on the device. Refer to the inverter specifications for this value and configure it in the field Maximum AC power under configuration | Devices | Configuration.

### Allowed power (kW):

This kW value is the maximum amount of power that is allowed at the grid connection point. The value is calculated based on the generator output and the current power output.

### Consumption (kW):

This value is calculated from the consumption meters and refers to the entire plant. The values displayed in the respective bus column only refer to the plant total and are not taken into account in the corresponding columns. The consumption values is normally subtracted from the allowed power from the entire plant.

### Control value power (kW):

This value is calculated by this Solar-Log™ and is the maximum current power output from the inverters. It is used for the current target power output.
Note:
The values recorded may differ due to rounding in the calculations by the Solar-Log™ (technical reasons).

### Current power output (kW):

The value refer to the current output generated by the inverter per interface (column) and for the entire plant.

### Control value power (% AC):

The Solar-Log™ calculates the control value power (kW) as a percentage of the maximum AC power and relays this to the inverters.

### Current power output (AC%):

The value indicates the total output generated as a percentage of the maximum AC power for the inverter or all of the inverters on a bus.

### Feed-in power (% DC):

This value is the current amount of feed-in power as a percentages of the generated output.

## Explanation of the Symbols in the Feed-in power (% DC) column:

The feed-in power value is in the target power range with a tolerance of -2% to +1%.

The feed-in power value is below target value allowed. Generally, this means that the output allowed at the grid connection point is not being achieved due to low irradiation or high self-consumption.

This means that the value is above the target value allowed.
If the red triangle is only displayed at a bush and entire plant has a green symbol, this means that only this bus is over the target value allowed. However, the plant totals do not go over the target value because of self-consumption.

Fig.: Feed-In Management - Feed-balance

The Feed-balance tab displays when there was a grid feed and when electricity was purchased from the grid. Negative values mean that the power was purchased from the grid and positive values mean that power was fed into the grid.

The power reductions are displayed in a table with two columns in the PM History tab.

- Event from - to:
  - The time and date that a power reduction was activated.
- Power reduction:
  - The power reduction as a percentage.

Two additional tabs can be accessed via the Power Management section:
Utility Meter
I/O Box
There is a detailed guide for this in the “Special Functions | Power Management” chapter of the Installation Manual.

## 2.11.5 Accessing the SCB Monitor (only Solar-Log 2000)

To access the SCB Monitor menu, go to Diagnostic | SCB Monitor.

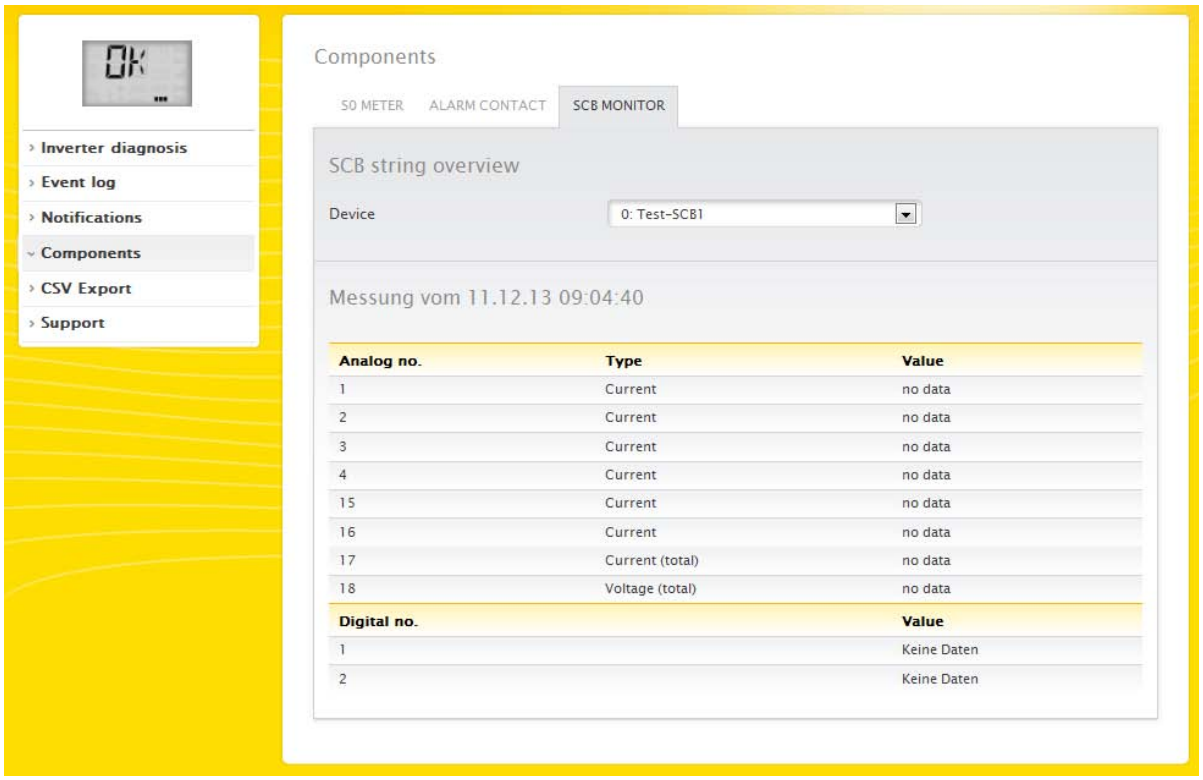



Fig.: SCB string overview

The SCB String Overview is displayed in a split-screen window. The connected devices (SCBs) can be individually accessed in the top screen via the pull-down menu.
The bottom screen displays the current measurements from the individual strings based on the analog and digital number.

Note!

The SCB Monitor menu only appears when an SCB is connected and it is also only available with the Solar-Log 2000.

## 2.11.6 Accessing components

To access the Components menu, go to Diagnostic | Components.

Fig.: Components - S0 meter on interface A and B

The following tabs are available in the Components menu:

- SO meter (see Fig.: Components - S0 meter on interface A and B)
- Alarm contact (only with the Solar-Log™ 2000) (see Fig.: Alarm contact)

All of the SO meters connected to the Solar-Log™ are listed in the Diagnostic | Components | S0-Meter menu. The following values are displayed in the Pulse meter box:

- Total number of pulses for the SO meter since the last restart of the Solar-Log™ (first number)
- Number of pulses since the menu has been accessed (second number)
- Pulse number interval in a minute (third number)

Note!

The Solar-Log™ restarts every night to reorganize the data. This means the total number of pulses for the SO meter is reset to zero every night.

The Diagnostic | Components | Alarm contact menu. menu is displayed in a split-screen window.

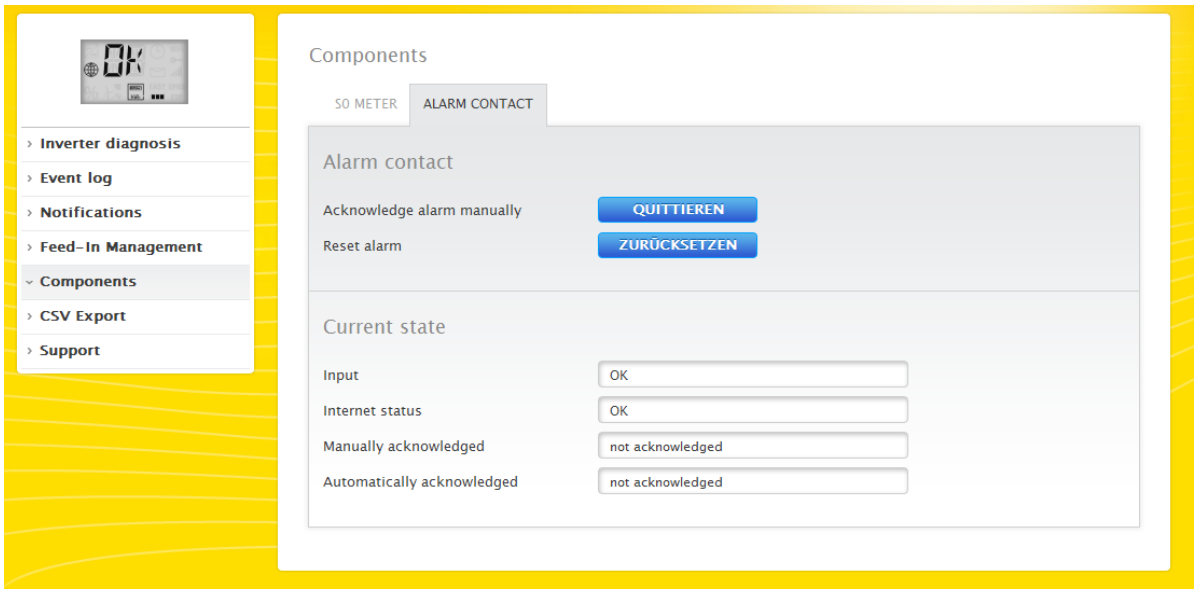



Fig.: Alarm contact

In the Alarm contact part at the top, you have the option to manually acknowledge the alarm or to reset it.
In the Current Status part at the bottom, you see the information in regard to the input of the notification (e.g. alarm), the internet status (e.g. OK) and if the notification has been manually or automatically acknowledged.

Note!

The alarm contact is only available with the Solar-Log 2000.

## 2.11.7 Accessing CSV Export

To access the CSV Export menu, go to Diagnostic | CSV Export.

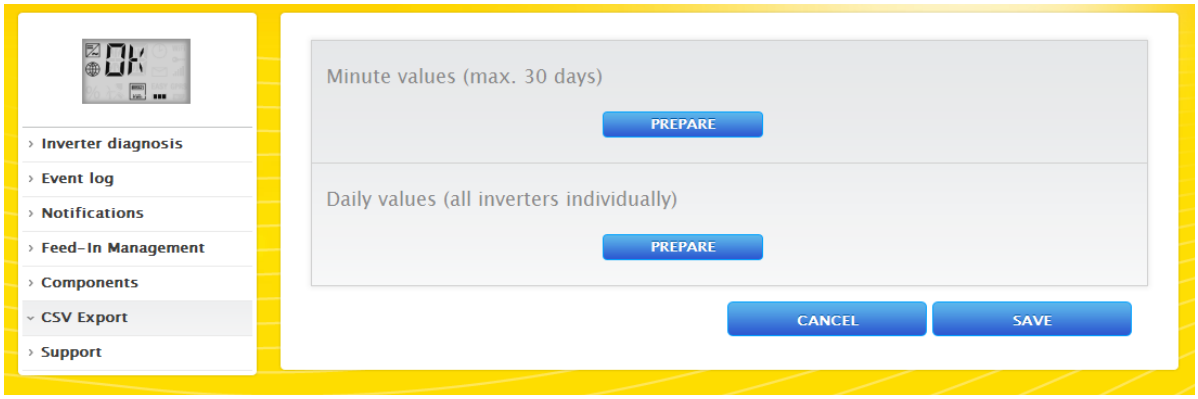



Fig.: CSV Export

You can download a CSV file form your plant from the CSV Export menu. You can select between minute values or daily values for the CSV file.

When Minute Values are selected, the file contains only a maximum of 30 days worth of values. When selecting Daily Values, all of the inverters are individually listed, but only the end of the day value is documented.
The CSV file with minute values is a in a table format and contains the 5-minute values from the last 30 days and the Pac and DC values from the individual inverters and also from every MPP tracker.
The CSV file with day values is a in a table format and contains the day values from every individual inverter since the start of the plant's operation (since plant monitoring with the Solar-Log™ started).

Note!

Files in the CSV format can be created with simple text editors or spreadsheet programs like MS Excel or Open Office Calc.

Important:

Only a CSV file with day values can be imported and not a CSV file with minute values.

Important!

When importing CSV data, all of the data on the device is deleted and replaced.

## 2.11.8 Accessing Support

To access the Support menu, go to Diagnostic | Support.

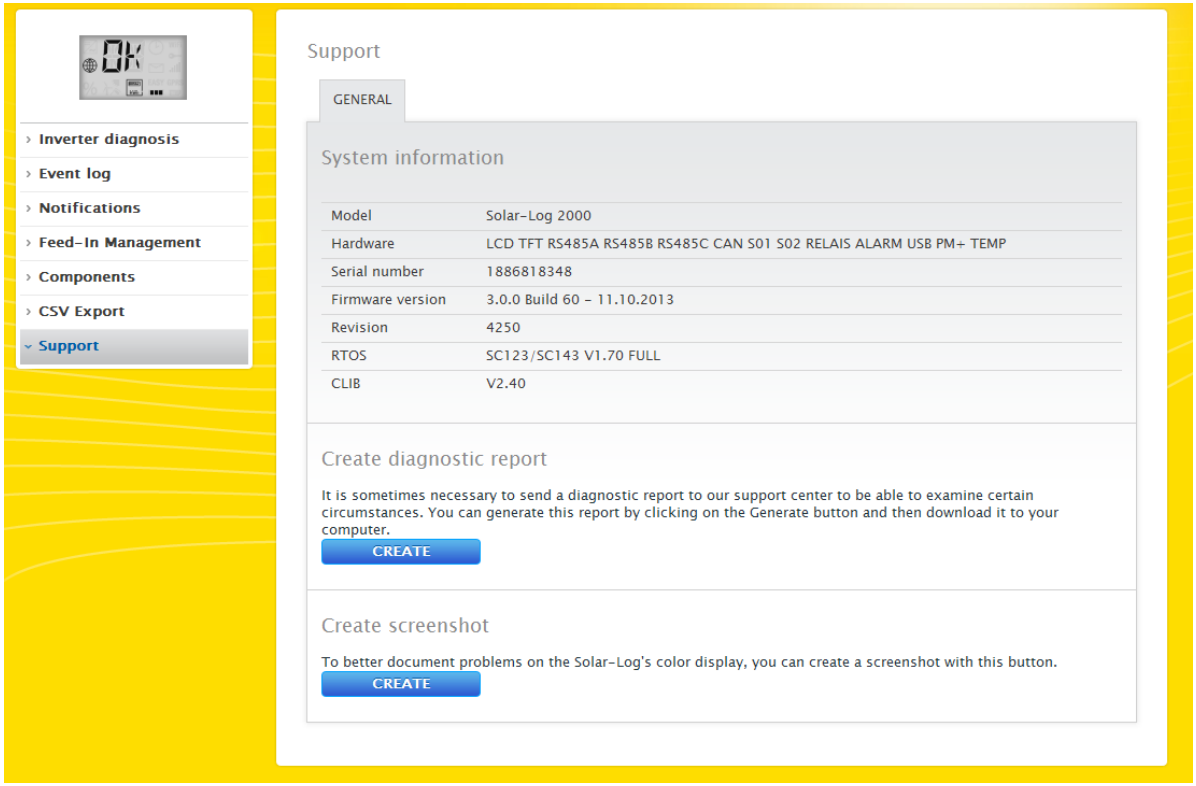



Fig.: Support - General

There are three sections under the Support | General menu:

- System Information:

The following information is available in this tab:

- Model (type of Solar-Log™).
- Hardware (hardware components available for the device).
- Solar-Log™ serial number.
- Firmware Version and date.
- Revision number.
- RTOS (Solar-Log™ operating system).
- CLIB (Version number of the Solar-Log™ library used).

- Creating diagnostic report:

You have the option to create and download a diagnostic report. This can be sent to the Solar-Log™ support for analysis. (See Fig.: Support - General.)

- Creating screenshots:

You have the option to create and download screenshots of the display in this section. This can be used to document errors on the Solar-Log's internal display. (See Fig.: Support - General.)

# 3 Notifications

## 3.1 Yield E-mail

The Solar-Log300, 1200, 2000 comes with an e-mail program that can send a daily overview of the day's performance to two different e-mail addresses (maximum of 57 characters, separated with a semicolon).

The settings are configured under the Configuration | Notifications menu.

Click on the Recipient tab to be able to enter the recipient's e-mail address.

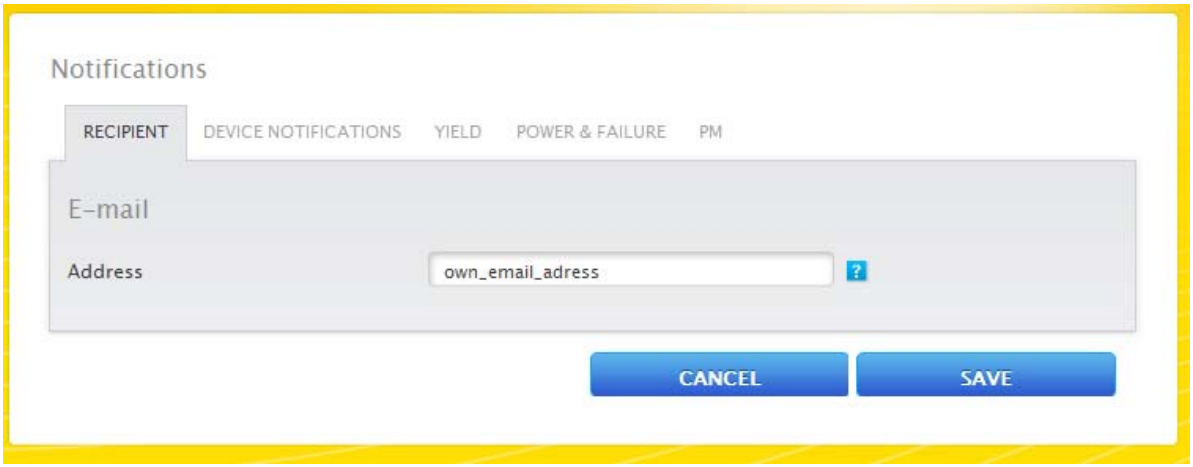



Fig.: Entering the recipient's e-mail address.

In the Yield tab, you can defined yield notifications per e-mail or text message (SMS).

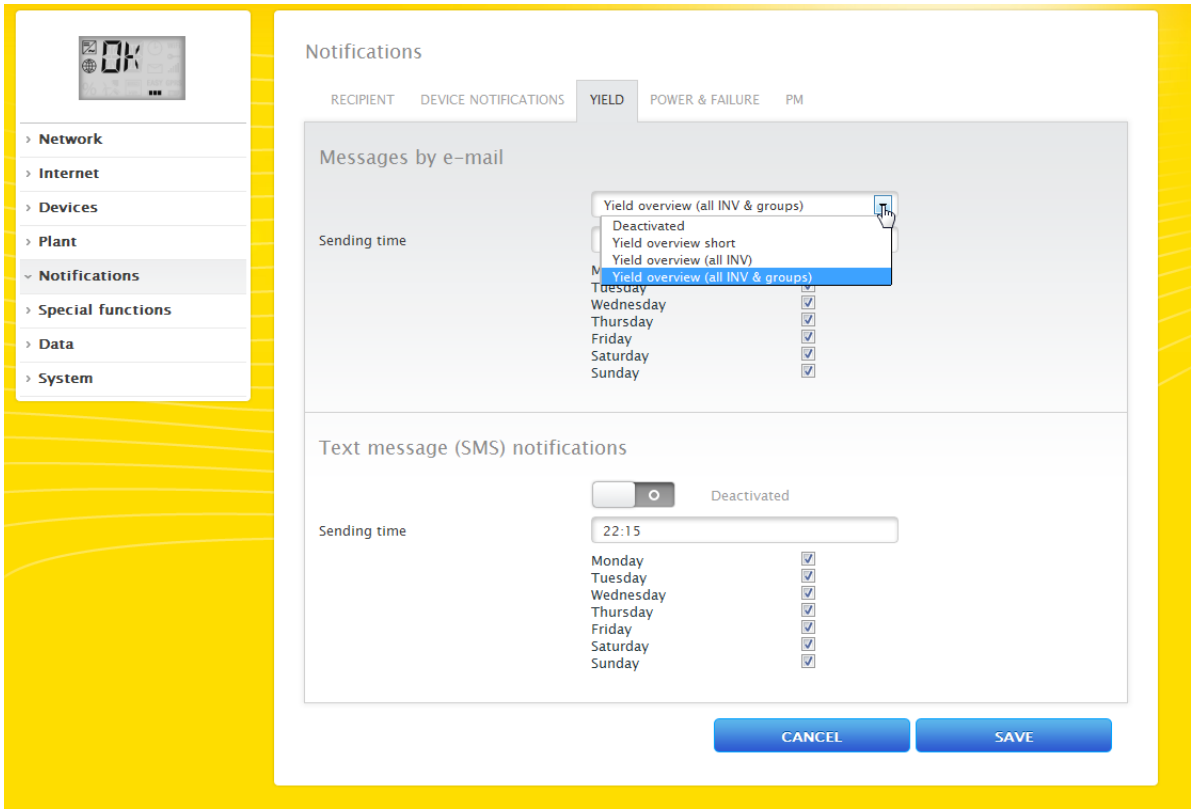



Fig.: Defining time frame and modes.

The time frame and modes for notifications can be defined here.
There are four modes:

- Deactivated
- Yield overview short
- Yield overview (All INV)
- Yield overview (All INV & groups)

Note!

See the chapter "Notification Settings" in the Installation Manual for additional information on the notification function.

### 3.1.1 Details of the individual E-Mail functions

#### Deactivated

- If no e-mail notifications are required.

#### Yield overview short

- The yield data for the entire plant is compiled by Day | Month | Year and is presented in text format. (See Fig.: Example of a yield message)

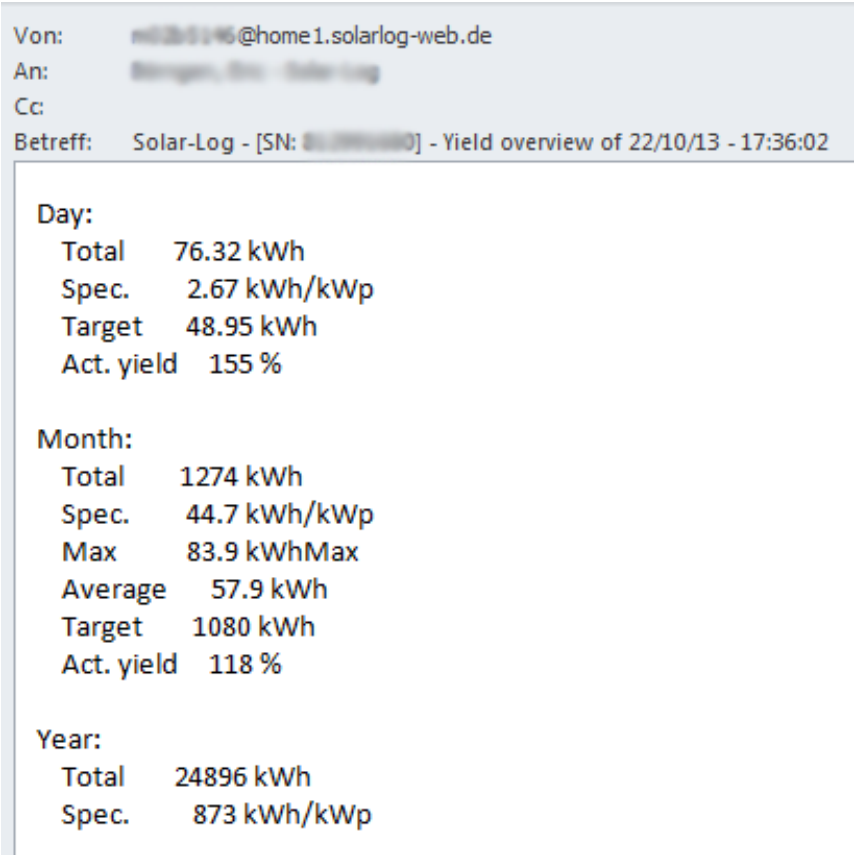



Fig.: Example of a yield message

## Yield overview (All INV)

- The yield data for the entire plant and also for the individual inverters and SO meters is compiled by Day | Month | Year and is presented as a table in HTML format. (See Fig.: Yield overview (All INV) in HTML format)

| | Day | | | | Month | | | | | | Year | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total | Spec. | Target | Act. yield | Total | Spec. | Max. | Average | Target | Act. yield | Total | Spec. |
| Total | 76.32 kWh | 2.67 kWh/kWp | 48.95 kWh | 155 % | 1274 kWh | 44.7 kWh/kWp | 83.9 kWhMax | 57.9 kWh | 1080 kWh | 118 % | 24896 kWh | 873 kWh/kWp |
| WR 1 | 7.63 kWh | 2.67 kWh/kWp | 4.89 kWh | 155 % | 127 kWh | 44.7 kWh/kWp | 8.3 kWhMax | 5.7 kWh | 108 kWh | 118 % | 2489 kWh | 873 kWh/kWp |
| WR 2 | 7.63 kWh | 2.67 kWh/kWp | 4.89 kWh | 155 % | 127 kWh | 44.7 kWh/kWp | 8.3 kWhMax | 5.7 kWh | 108 kWh | 118 % | 2489 kWh | 873 kWh/kWp |
| WR 3 | 7.63 kWh | 2.67 kWh/kWp | 4.89 kWh | 155 % | 127 kWh | 44.7 kWh/kWp | 8.3 kWhMax | 5.7 kWh | 108 kWh | 118 % | 2489 kWh | 873 kWh/kWp |
| WR 4 | 7.63 kWh | 2.67 kWh/kWp | 4.89 kWh | 155 % | 127 kWh | 44.7 kWh/kWp | 8.3 kWhMax | 5.7 kWh | 108 kWh | 118 % | 2489 kWh | 873 kWh/kWp |
| WR 5 | 7.63 kWh | 2.67 kWh/kWp | 4.89 kWh | 155 % | 127 kWh | 44.7 kWh/kWp | 8.3 kWhMax | 5.7 kWh | 108 kWh | 118 % | 2489 kWh | 873 kWh/kWp |
| WR 6 | 7.63 kWh | 2.67 kWh/kWp | 4.89 kWh | 156 % | 127 kWh | 44.7 kWh/kWp | 8.3 kWhMax | 5.7 kWh | 108 kWh | 118 % | 2489 kWh | 873 kWh/kWp |
| WR 7 | 7.63 kWh | 2.67 kWh/kWp | 4.89 kWh | 155 % | 127 kWh | 44.7 kWh/kWp | 8.3 kWhMax | 5.7 kWh | 108 kWh | 118 % | 2489 kWh | 873 kWh/kWp |
| WR 8 | 7.63 kWh | 2.67 kWh/kWp | 4.89 kWh | 155 % | 127 kWh | 44.7 kWh/kWp | 8.3 kWhMax | 5.7 kWh | 108 kWh | 118 % | 2489 kWh | 873 kWh/kWp |
| WR 9 | 7.62 kWh | 2.67 kWh/kWp | 4.89 kWh | 155 % | 127 kWh | 44.7 kWh/kWp | 8.3 kWhMax | 5.7 kWh | 108 kWh | 118 % | 2489 kWh | 873 kWh/kWp |
| WR 10 | 7.63 kWh | 2.67 kWh/kWp | 4.89 kWh | 155 % | 127 kWh | 44.7 kWh/kWp | 8.3 kWhMax | 5.7 kWh | 108 kWh | 118 % | 2489 kWh | 873 kWh/kWp |

| | Type | Daily total |
|---|---|---|
| Total | - | 0.00 kWh |
| WR 1 | Overall yield meter | 0.00 kWh |
| WR 2 | Overall yield meter | 0.00 kWh |
| WR 3 | Overall yield meter | 0.00 kWh |

Fig.: Yield overview (All INV) in HTML format

## Yield overview (All INV & groups)

| | Day | | | | Month | | | | | | Year | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total | Spec. | Target | Act. yield | Total | Spec. | Max. | Average | Target | Act. yield | Total | Spec. |
| Total | 76.32 kWh | 2.67 kWh/kWp | 48.95 kWh | 155 % | 1274 kWh | 44.7 kWh/kWp | 83.9 kWhMax | 57.9 kWh | 1080 kWh | 118 % | 24896 kWh | 873 kWh/kWp |
| Ost | 38.16 kWh | 2.67 kWh/kWp | 24.47 kWh | 155 % | 637 kWh | 44.7 kWh/kWp | 41.9 kWhMax | 28.9 kWh | 540 kWh | 118 % | 12448 kWh | 873 kWh/kWp |
| WR 1 | 7.63 kWh | 2.67 kWh/kWp | 4.89 kWh | 155 % | 127 kWh | 44.7 kWh/kWp | 8.3 kWhMax | 5.7 kWh | 108 kWh | 118 % | 2489 kWh | 873 kWh/kWp |
| WR 2 | 7.63 kWh | 2.67 kWh/kWp | 4.89 kWh | 155 % | 127 kWh | 44.7 kWh/kWp | 8.3 kWhMax | 5.7 kWh | 108 kWh | 118 % | 2489 kWh | 873 kWh/kWp |
| WR 3 | 7.63 kWh | 2.67 kWh/kWp | 4.89 kWh | 155 % | 127 kWh | 44.7 kWh/kWp | 8.3 kWhMax | 5.7 kWh | 108 kWh | 118 % | 2489 kWh | 873 kWh/kWp |
| WR 4 | 7.63 kWh | 2.67 kWh/kWp | 4.89 kWh | 155 % | 127 kWh | 44.7 kWh/kWp | 8.3 kWhMax | 5.7 kWh | 108 kWh | 118 % | 2489 kWh | 873 kWh/kWp |
| WR 5 | 7.63 kWh | 2.67 kWh/kWp | 4.89 kWh | 155 % | 127 kWh | 44.7 kWh/kWp | 8.3 kWhMax | 5.7 kWh | 108 kWh | 118 % | 2489 kWh | 873 kWh/kWp |
| West | 38.16 kWh | 2.67 kWh/kWp | 24.47 kWh | 155 % | 637 kWh | 44.7 kWh/kWp | 41.9 kWhMax | 28.9 kWh | 540 kWh | 118 % | 12448 kWh | 873 kWh/kWp |
| WR 6 | 7.63 kWh | 2.67 kWh/kWp | 4.89 kWh | 156 % | 127 kWh | 44.7 kWh/kWp | 8.3 kWhMax | 5.7 kWh | 108 kWh | 118 % | 2489 kWh | 873 kWh/kWp |
| WR 7 | 7.63 kWh | 2.67 kWh/kWp | 4.89 kWh | 155 % | 127 kWh | 44.7 kWh/kWp | 8.3 kWhMax | 5.7 kWh | 108 kWh | 118 % | 2489 kWh | 873 kWh/kWp |
| WR 8 | 7.63 kWh | 2.67 kWh/kWp | 4.89 kWh | 155 % | 127 kWh | 44.7 kWh/kWp | 8.3 kWhMax | 5.7 kWh | 108 kWh | 118 % | 2489 kWh | 873 kWh/kWp |
| WR 9 | 7.62 kWh | 2.67 kWh/kWp | 4.89 kWh | 155 % | 127 kWh | 44.7 kWh/kWp | 8.3 kWhMax | 5.7 kWh | 108 kWh | 118 % | 2489 kWh | 873 kWh/kWp |
| WR 10 | 7.63 kWh | 2.67 kWh/kWp | 4.89 kWh | 155 % | 127 kWh | 44.7 kWh/kWp | 8.3 kWhMax | 5.7 kWh | 108 kWh | 118 % | 2489 kWh | 873 kWh/kWp |

| | Type | Daily total |
|---|---|---|
| Total | - | 0.00 kWh |
| WR 1 | Overall yield meter | 0.00 kWh |
| WR 2 | Overall yield meter | 0.00 kWh |
| WR 3 | Overall yield meter | 0.00 kWh |

Fig.: Yield overview (All INV & groups) in HTML format

## Details of the individual yield overviews

Subject: The Solar-Log serial number and time and date

### Day:

| Field | Explanation Text |
|---|---|
| Total | The actual amount of grid feed for the day in kWh. |
| Specific | Yield specific, the energy yield divided by the amount of generator power installed.<br>(Values are normalized to 1 kWp) |
| Max | The maximum power in Kw |
| Target | The yield in kWh which can be achieved according to the forecast. |
| Actual Yield | The percentage of days on which the target was achieved.<br>The daily yield achieved as percentage, and the total to target ratio. |

### Month:

| Field | Explanation Text |
|---|---|
| Total | The actual amount grid feed for the day in kWh. |
| Specific | Yield specific. The energy yield divided by the amount of generator power installed.<br>(Values are normalized to 1 kWp) |
| Max | Displays the maximum daily production for this month in kWh. |
| Medium | The average daily production which was achieved for this month. |
| Target | The yield in kWh which had been achieved up to the current day according to the forecast. |
| Actual Yield | Percentage of the monthly target that has already been achieved up to the current day.<br>The month target already achieved as a percentage.<br>At the total to target ratio. |

### Year:

| Field | Explanation Text |
|---|---|
| Total | The actual amount grid feed for the day in kWh. |
| Specific | Yield specific. The energy yield divided by the amount of generator power installed.<br>(Values are normalized to 1 kWp) |

## 3.2 Performance Monitoring

To monitor different sized inverters, the Solar-Log™ normalized to the value from every inverter to 1 kWp.
This is based on the amount of generator power set in Configuration | Devices | Configuration.
The generator power is equivalent to 100% and the value here is normalized to 1 kWp)

Example plant:

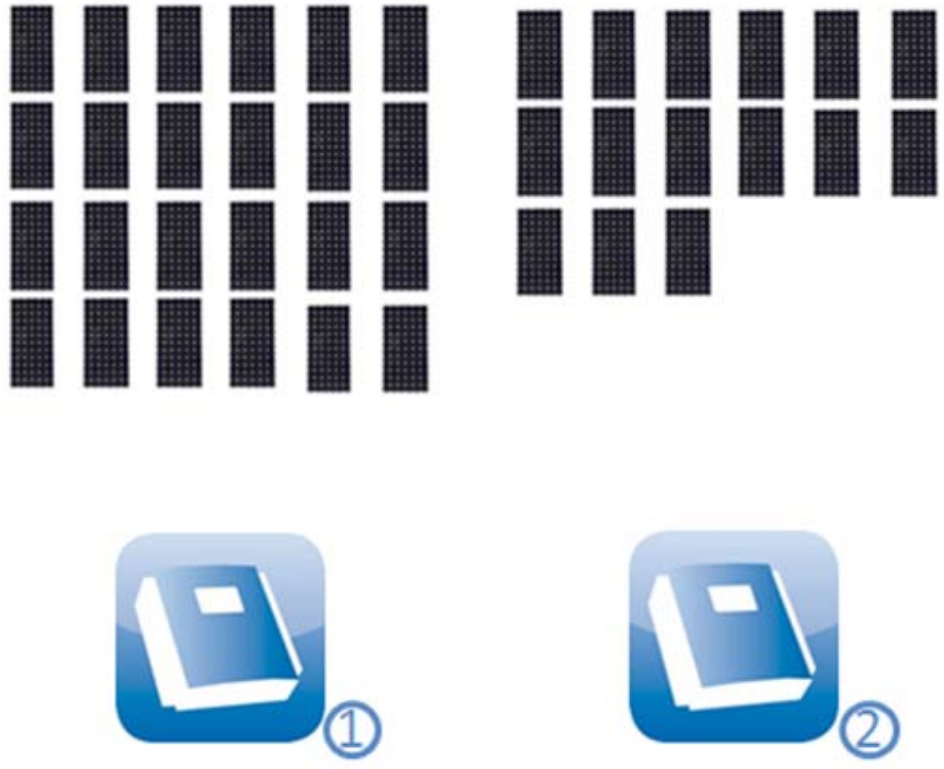


Fig.: Performance Monitoring: Example pant with two inverters

| Inverter 1, Inverter 1 house | Inverter 2, Inverter 2 house |
|---|---|
| Generator Power:<br>25* 220W (modules) = 5500 Wp | Generator Power:<br>15* 220W (modules) = 3300 Wp |
| Module Field 1 | Module Field 1 |

The Solar-Log™ compares all of the inverters that are located in the same module field.
Settings for the module fields under Configuration | Devices | Configuration.

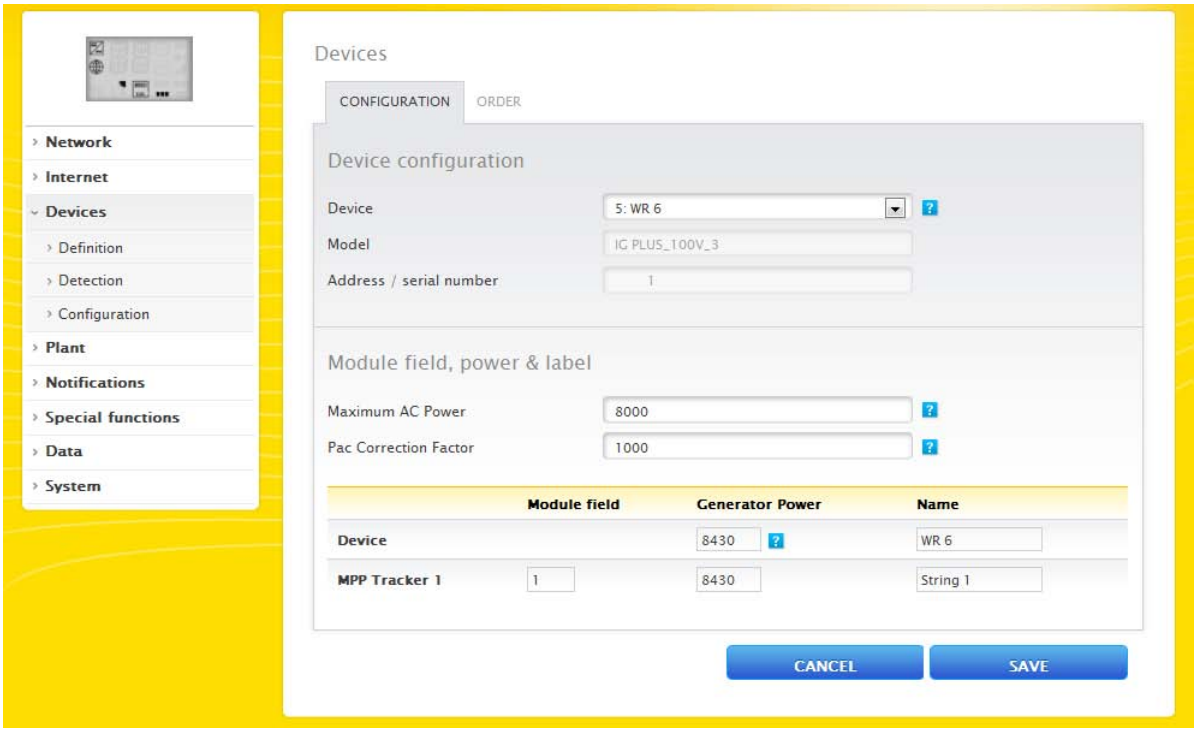



Fig.: Configuring module fields

Performance Monitoring Configuration under Configuration | Notifications.

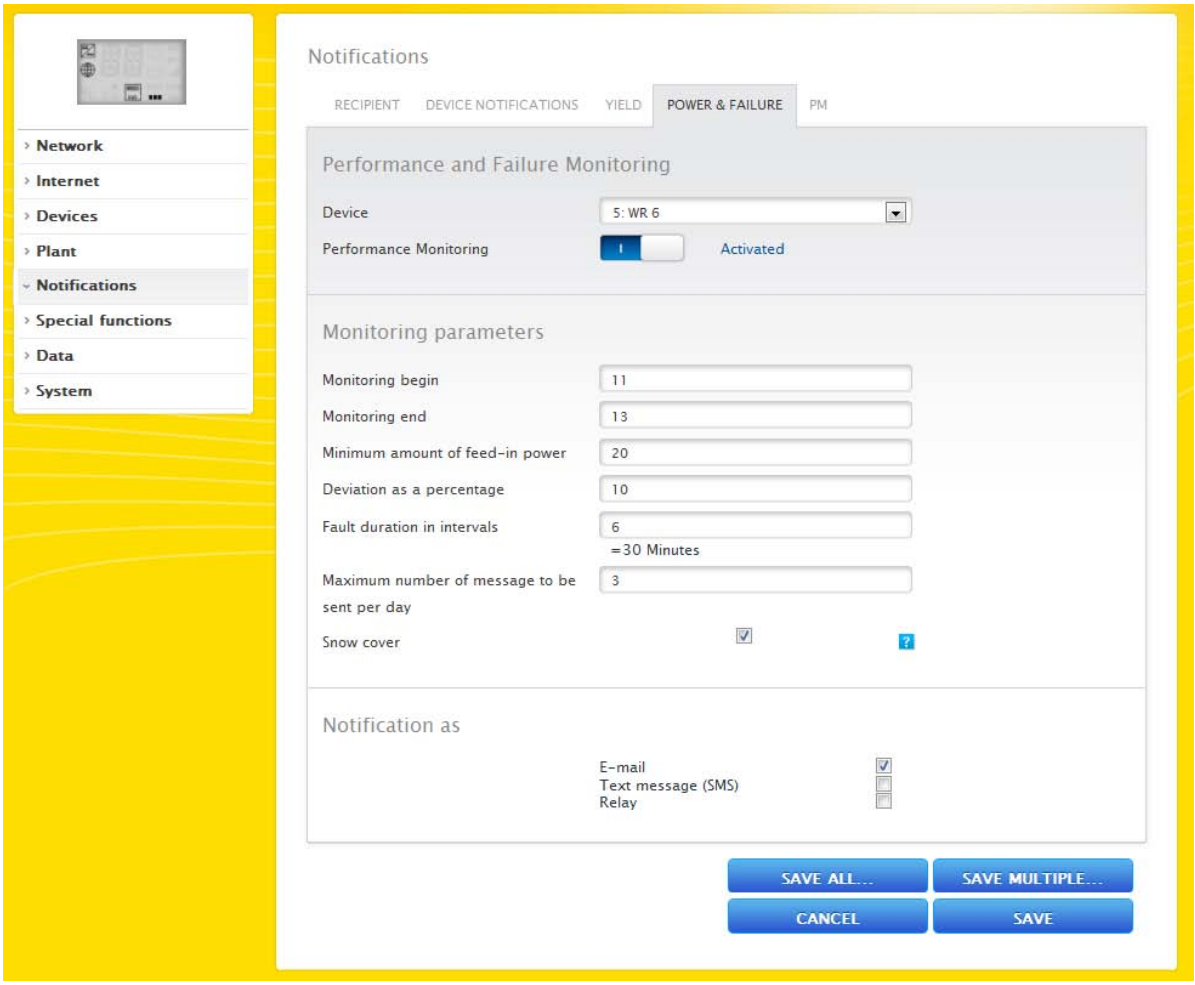


Fig.: Configuring performance monitoring

The output measured from the inverters is compared to the generator capacity that is listed in the system. A notification is sent (by email) when the deviation exceeds the amount configured (for example 10%) over a set time period (for example 30 minutes).

Note!

For performance monitoring configurations, see the chapter "Configuring Notification " in the Installation Manual.

### 3.2.1 Performance Monitoring Notification

Example Notification:

Module Field 1 - Inverter 1 'Inverter 1 House'
IRV = 4916W ( Inverter 2, Inverter 2 House' ), IAV = 3950W, deviation = 19.65 %

The notification contains the following information:

Module field:
The module field which was affected or at least the module field in which a deviation was detected.
Deviating inverter:
Inverter 1
IRV:
The reference value that is used to contrast inverters. It comes from the most effective operating inverter, the value is in W.
IAV:
The amount of output from inverter with a deviation.
Dev:
The amount of deviation as a percentage of the reference value.

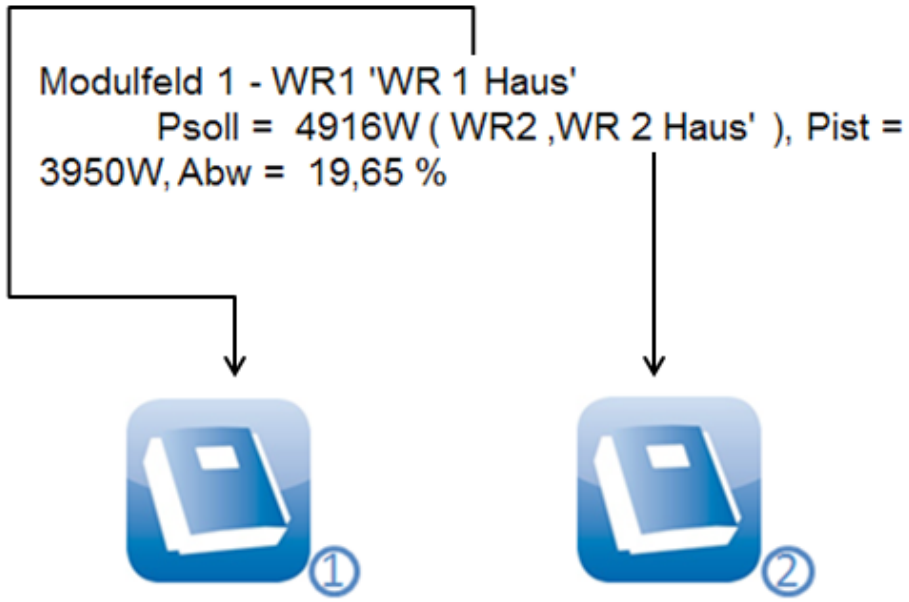



Fig.: Performance Monitoring with notification and inverter

| Inverter 1, Inverter 1 house | | Inverter 2, Inverter 2 house |
|---|---|---|
| Generator Power= | 5500 Wp | 3300 Wp |
| Current power output | =3950 W | = 2950 W |
| Current efficiency | = 71.81 % | = 89.39 % |
| | Inverter with a deviation | Reference Inverter |

The inverter that has generated the most power (inverter 2 with its value of 0.8939 in this case) is used as the reference inverter.

### 3.2.2 Calculation and Explanation of the Notification

In regard to the reference inverter, inverter 1 is compared to all of the inverters in the same module field (in the example only output is used).
A deviation of 19.65 is determined based on the comparison of the generator capacity and IRV forecast.

#### Calculating the Deviation for Inverter 1

| Deviation Calculation | |
|---|---|
| Inverter 1 IRV calculation | (5500 x 89.39)100= IRV 4916 W |
| Efficiency of Inverter 1 | (3950 W / 5500 W)* 100= 71.81% |
| This corresponds to 71.81 % of the generator power or a value of 0.7181 kWp. | |

| Deviation as a percentage | |
|---|---|
| IRV Inverter 1 - IAV Inverter 1 | 4916 W - 3950 W = 966 W |
| Deviation as a percentage | (966 W / 4916 W)* 100= 19.65 % |

Inverter 2 is used as the reference inverter since it was the most effective one at the time of the measurement. Inverter 1 should have produced an output of 4916 W based on the measurement and the calculations comparing all of the inverters in the same module field. The actual output was 3950 W, a deviation of 19.65%. This caused a notification to be sent.

# 4 Operating the Solar-Log 1200 and 2000 via Touch Display

The Solar-Log 1200 and 2000 are equipped with a touch screen that allows power output, yield history and environmental performance to be quickly displayed. Data can also be imported from and copied to USB sticks via the display.

Note!

Never use sharp, pointed objects on the touch screen!
This will damage the screen's delicate surface.

## 4.1 Navigating from the touch screen

After the Solar-Log 1200, 2000 has started, the overview view is displayed.

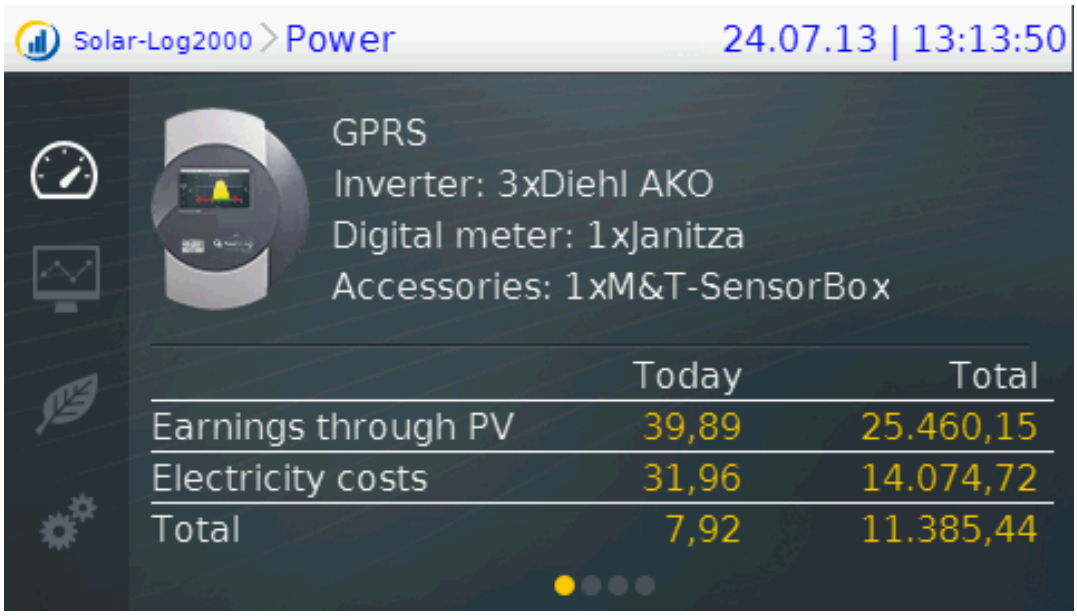



Fig.: Start page of the display

The following is displayed in this view:

The header bar with

- the Solar-Log™ module
- navigation heading
- date
- time

The following symbols are displayed in the left-side navigation menu and can be selected for additional options:

Power

Yield History

Environmental per-
formance

Settings

The display window with:

- Solar-Log™ type
- the connected devices (inverter, power meter etc.)
- a table with the following values: earnings from PV, purchased power (only with connected meters) and the total for the day and overall.

Swipe your fingers on the display, either from right to left or left to right, to switch to the next view.
There is a split-screen window for the energy balance, environmental performance and yield history menus.
The dots at the bottom of the screen( ) indicate the current page of the menu.
You can always view the power output for the current day by tapping on the top header with the time and date. The current Dashboard is displayed by tapping on it twice.

## 4.2 Accessing the Dashboard

You can swipe to go from the start page to the Dashboard. From the Power menue.

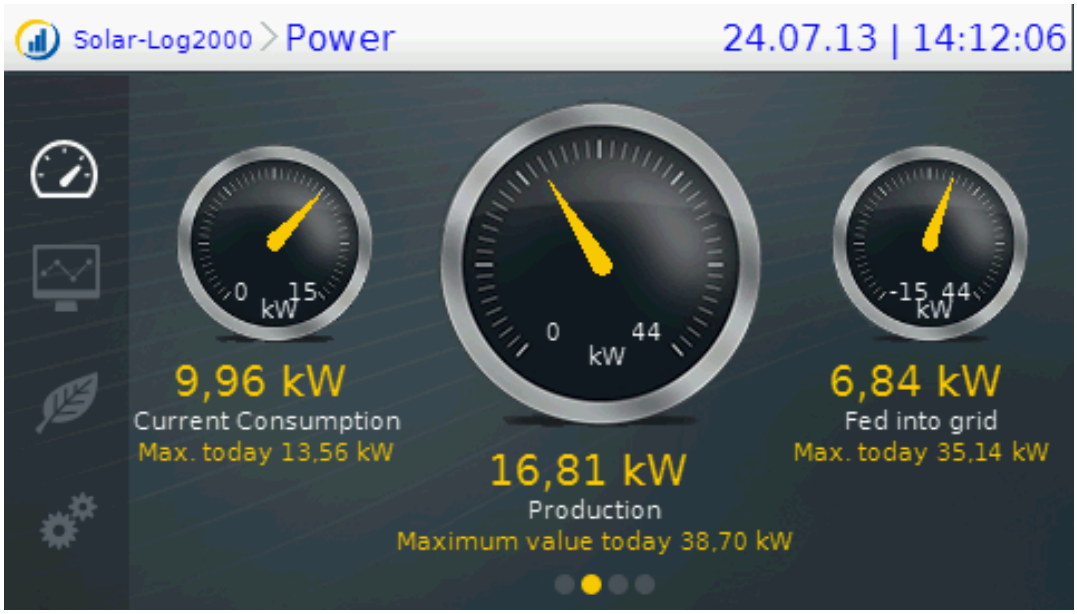



Fig.: Dashboard view

In the view from left-to-right:
Current consumption and today's consumption high (only with connected meters)
Current production and today's production high
Current grid feed and today's grid feed high for power fed into the grid (only with connected meters)

## 4.3 Accessing the Energy Balance

You can swipe from the start page to go to the Energy Balance from the Power menu.

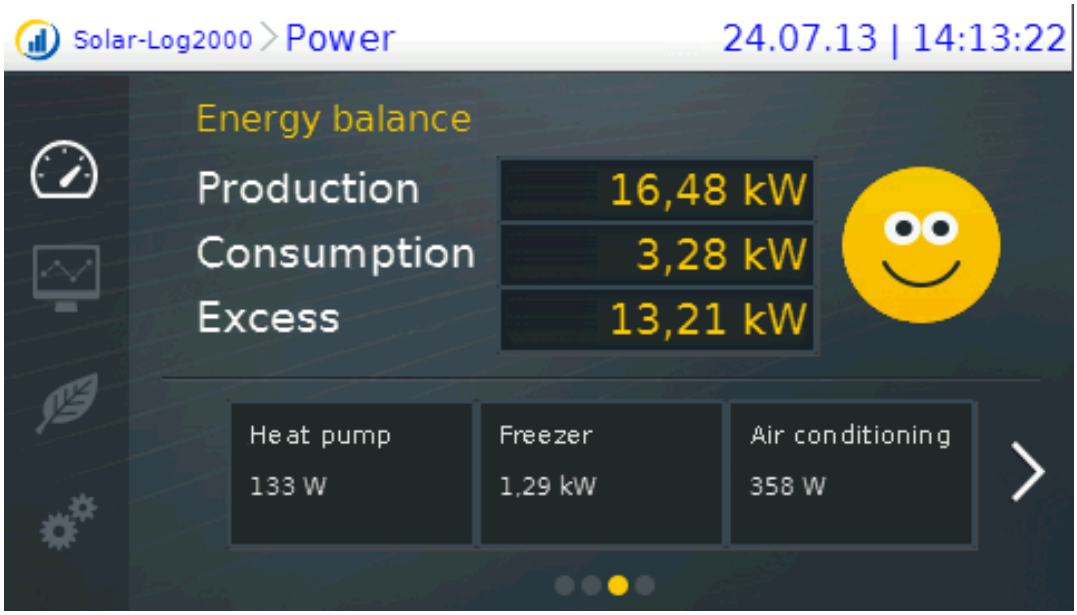



Fig.: Energy Balance view

The energy balance is a split-screen window. The top part of the window displays the following values:
Production:

- Current plant production.

Consumption:

- Current power consumption (only with connected meters)

Surplus:

- Current grid feed (only with connected meters)

The bottom part of the window displays the connected appliances with their current consumption values.
Use the arrows to display additional appliances.

Note!

Values are only visible if appliances are connected via networked "smart plugs", relays or the Solar-Log™ Meter.

Note!

Up to 10 appliances can be connected and configured.

## 4.4 Accessing Forecast

Swipe in the Power menu to go to the forecast.

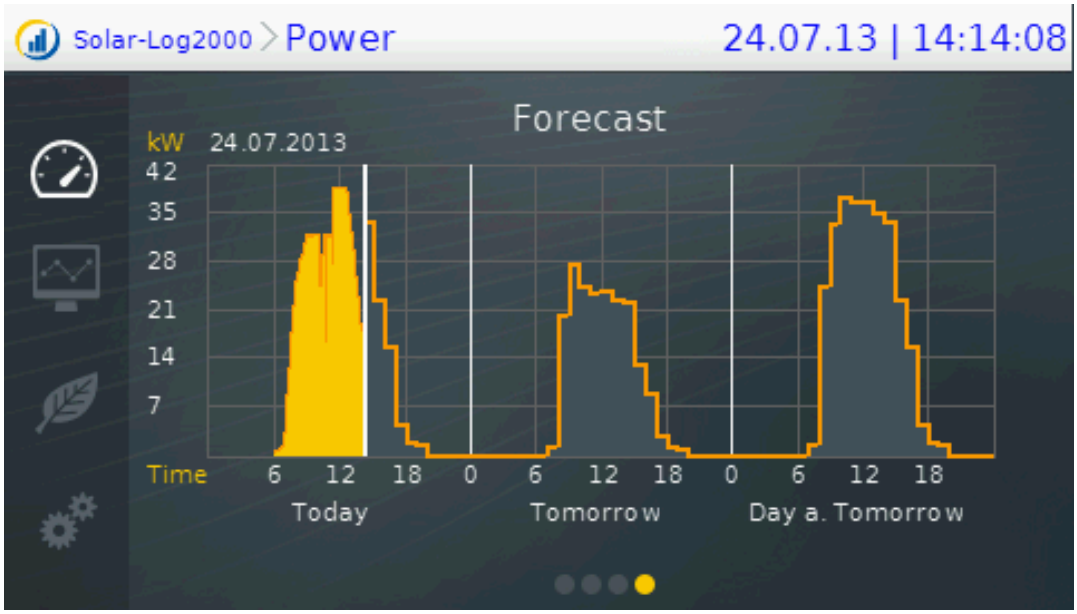



Fig.: Forecast view

In the forecast view, weather data is accessed in the morning and in the evening. The values for the current day and the next two days are calculated based on this data and shaded in gray.

For the forecast view, it is essential that the plant location, orientation of the plant and pitch of the modules has been entered.
This is automatically asked with the Classic 2nd Edition. This has to be entered in the inverter details with the Commercial Edition.

Note!

You need to register for either the Classic 2nd Edition or Commerical Edition portal to use this function.

## 4.5 Accessing Yield history

Access the Yield History from the navigation menu on the left by tapping on the  symbol.

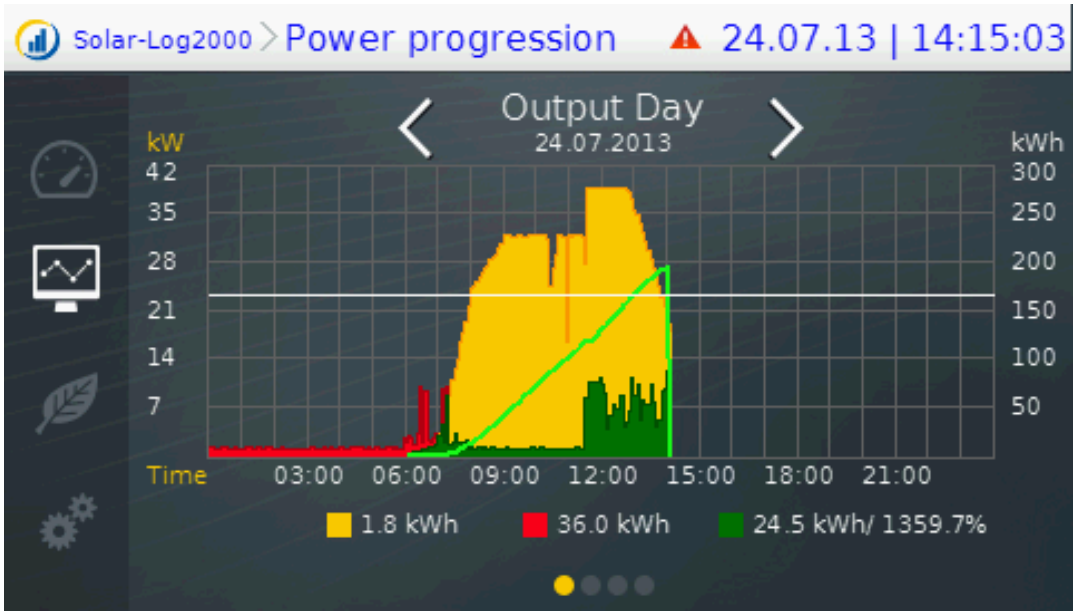



Fig.: Yield history - Day

The Yield history view is displayed in two sections.
In the top part, you have the option, depending on the display mode (year, month, year), to swipe on the display to go to the exact date.
In the bottom part, you can swipe to the next display mode: day, month, year or total.

## 4.6 Accessing Environmental performance

Access the Environmental Performance from the navigation menu on the left by tapping on the Environmental performance symbol.

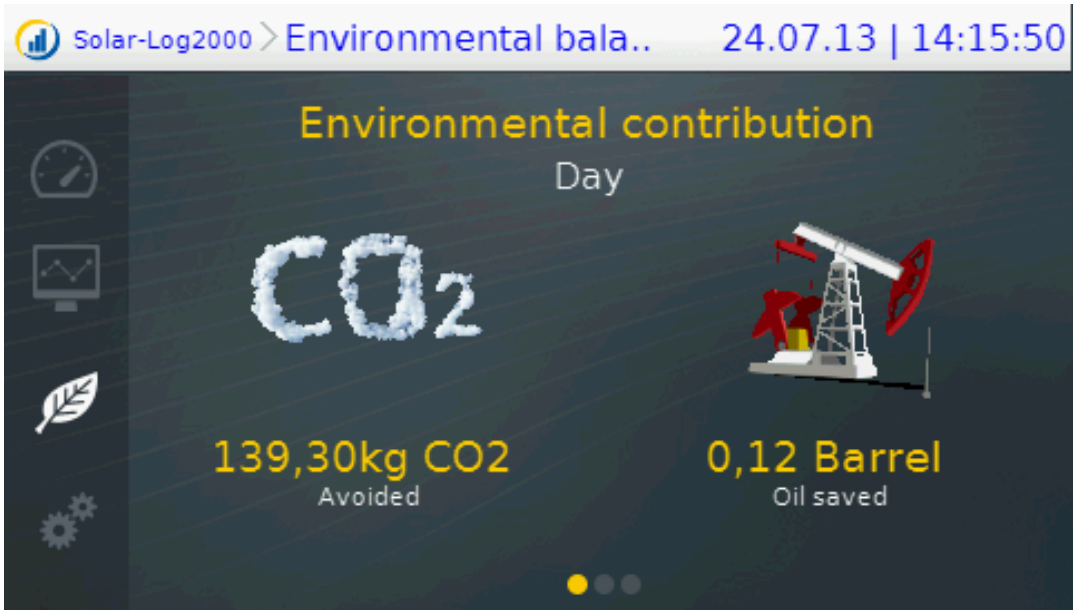



Fig.: Environmental performance - Day view

The Environmental performance view is displayed in two sections.

The top display contains:

- Day
- Month
- Year
- Total

The bottom display contains the values for your plant's environmental contributions:

- Avoided CO2 emissions
- Oil saved
- Reduced nuclear waste
- Trip with an electric car (in kilometers)
- Trees saved
- Households (energy needs for a family of four)

Accessing the USB menu

Access the USB menu from the navigation menu on the left by tapping on the Settings symbol.

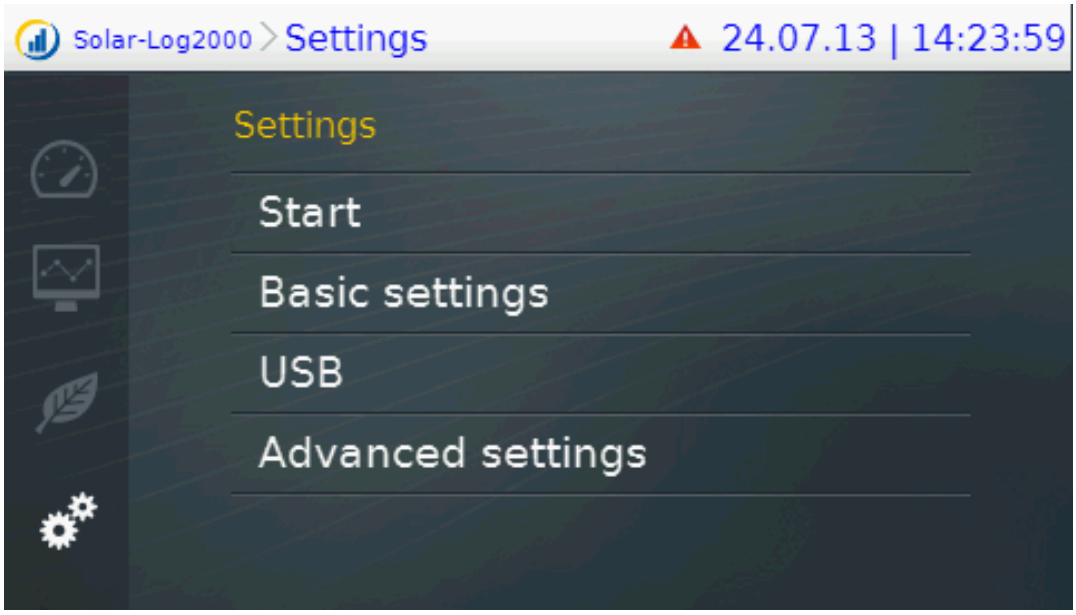



Fig.: Menu Settings

This brings you to the main Settings menu. Tap on USB.

The sections:

- Start
- Basic settings
- Advanced settings

are described in detail in the chapter "Direct Device Configurations" in the Installation Manual.

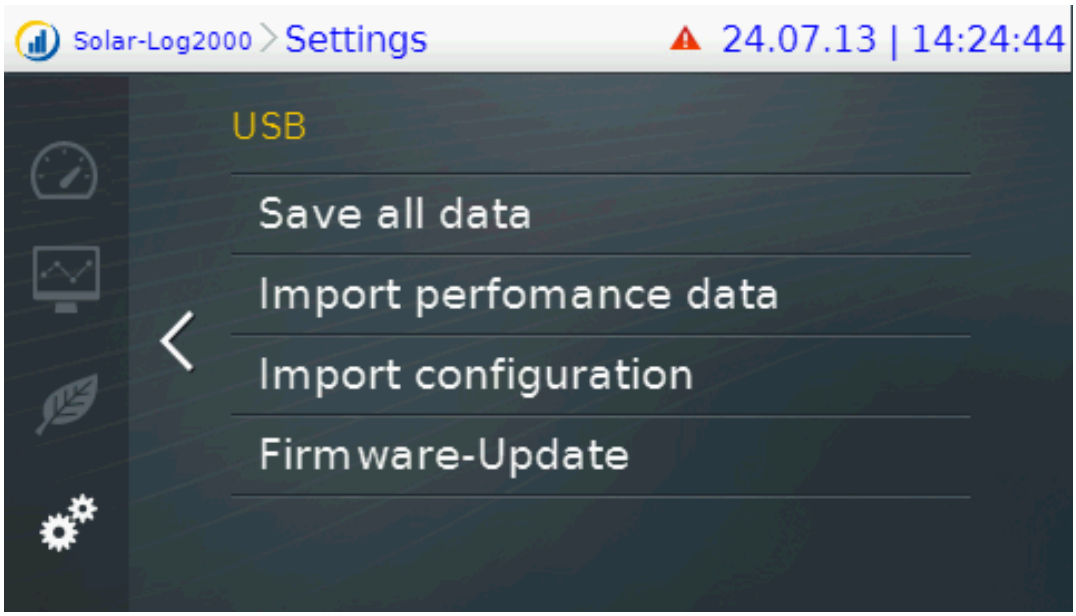



Fig.: USB menu

You have the following options from the USB menu:

Save all data:

- The Solar-Log™ creates the folder "backup" on the stick and saves the solarlog_backup.dat and solarlog_config.dat files there.

Import yield data:

- The Solar-Log™ searches for a valid solarlog_backup.dat file on the USB stick and imports it.

Import configuration:

- The Solar-Log™ searches for a valid solarlog_konfig.dat file on the USB stick and imports it.

Firmware update:

- The Solar-Log™ searches for a firmware update to import and then starts the update.

Note!

As soon as a USB stick has been plugged in, the folder named "Backup" is automatically created on the USB stick. At the end of the day, the Solar-Log™ saves a daily backup with the date in this folder.

Important!

The Solar-Log™ does not overwrite the daily backup files. Thus it is important to regularly backup or exchange the USB stick before it runs out of space.

Important:

When importing data from the USB stick, all of the data on the device is deleted and replaced.

Note!

Import the current configuration before importing saved yield data.

### 4.6.1 Pac Correction Factor

At photovoltaic plants, several measuring points and power generators (inverters) are combined with one another. The Solar-Log™ evaluates this data and partially looks for any correlations.
Since some of the components are not calibrated, deviations in the values measured can easily arise.
For example, if the total amount of energy produced based on what the inverters display is compared with the values from calibrated power meters, deviations of up to 8% can arise.
In practice, meters and inverters both can display too much or too little kWh.
To correct these inaccuracies in the medium term, the Solar-Log™ firmware uses a PAC correction factor.
The PAC correction factor is located in the Configuration | Devices | Configuration menu.

### 4.6.2 Calculating the PAC correction factor

All of the yield data is saved internally without the correction factor. The correction factor is only applied to the data output. The factor can therefore be adjusted at any time.

The formula for calculating the correction factor is as follows:

(Yield power meter / yield inverter) * 1000

If the inverter does not have a display, it is advisable to use the values which are recorded by the Solar-Log™ from a period over a week.

That is why it is recommended to leave the default PAC correction factor at 1000 initially.

The correction factor can be adjusted yearly after receiving the statement from the utility company.

Example calculation:

| Inverter 1 | Inverter 2 | Calibrated power meter |
|---|---|---|
| Total energy | Total energy | Total energy |
| 259.12 kWh | 305.22 kWh | 550.55 kWh |
| Total = 564.34 kWh | | Deviation= 13.79 kWh |

By comparing the values, you see that the inverters are more likely to display too much output.

| Pac Correction Factor | |
|---|---|
| Calibrated power meter total energy | Inverter total energy |
| 550.5 kWh | 564.34 kWh |
| Calculated PAC correction factor in the example: | |
| (550.55 kWh/564.34 kWh)* 1000= 975.66 | |
| Rounded PAC correction factor = 976 | |

# 5 Using the Solar-Log WEB

With the Solar-LogTM WEB, you can access your plant's yield data and event log via the Internet and set yield and fault notifications to be sent to an e-mail address daily. A Solar-LogTM WEB account is required.
The portal offers additional functions which can be tailored to your needs. Please contact your installer for more information or check out our website:

http://www.solar-log.com/en/products-solutions/solar-log-web.html.

## 5.1 Registering for Solar-Log™ WEB "Classic 2nd Edition"

The Solar-Log™ WEB "Classic 2nd Edition" online registration is very simple.
Start your browser and go to the the Solar-Log™ WEB registration site:
http://www.solar-log.com/classic2/
Select Register from the menu on the left.
The registration form then appears.

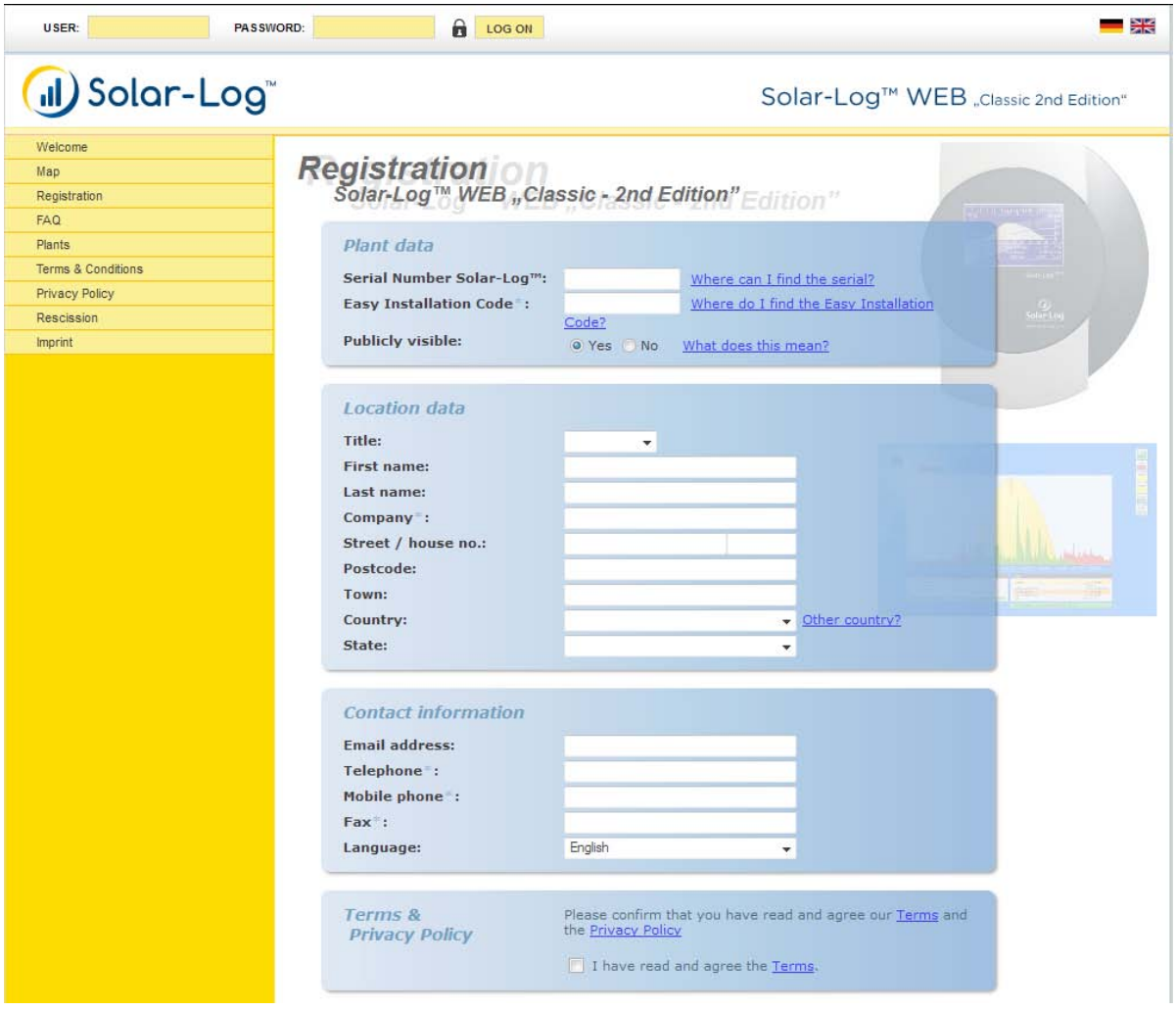



Fig.: C2 registration

Enter your device's Serial Number.
The serial number (SN) is located under the top cover.

Select whether the date should be public visibility in the Internet or not.
Your plant information can then be viewed by other portal users. When you select "No", then you have to log on to the site with your user data that you will receive from Solare Datensysteme GmbH once the registration process has been completed.

The “Public Visibility” setting can be changed later at any time from your site's configuration menu.
Enter your location and contact information .
Confirm that you have read our General Terms & Conditions (GTC) and Privacy Policy.

Enter the password  from the image. This system is used to prevent bots from trying to access our server.
Confirm the information entered by clicking on Register Now.

If you forgot to enter a password or entered the wrong one, a new password is automatically generated again without having to reenter all of the information.
After the registration has been successfully completed, you will receive a confirmation e-mail.  After you have confirmed the registration, we will check your data and activate your account.

Note!

Accounts are only activated during the week. This can take up to 24 hours.

## 5.2 Accessing Plant data

Start your browser and go to the Solar-Log™ WEB start page. Enter the URL, which you received in your confirmation e-mail, in the address bar.
For example: http://home10.solarlog-web.de/
The welcome screen is displayed.

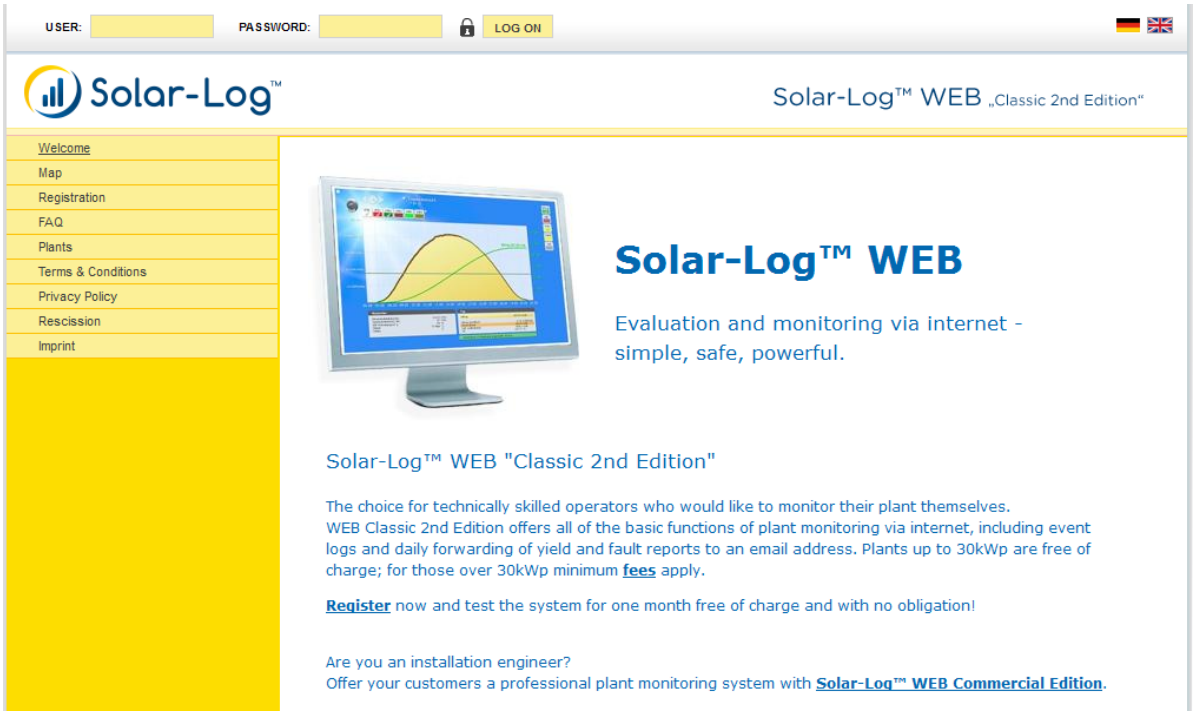

USER:
PASSWORD:
LOG ON
Solar-Log™
Solar-Log™ WEB „Classic 2nd Edition“
Welcome
Map
Registration
FAQ
Plants
Terms & Conditions
Privacy Policy
Rescission
Imprint
Solar-Log™ WEB
Evaluation and monitoring via internet - simple, safe, powerful.
Solar-Log™ WEB "Classic 2nd Edition"
The choice for technically skilled operators who would like to monitor their plant themselves.
WEB Classic 2nd Edition offers all of the basic functions of plant monitoring via internet, including event logs and daily forwarding of yield and fault reports to an email address. Plants up to 30kWp are free of charge; for those over 30kWp minimum fees apply.
Register now and test the system for one month free of charge and with no obligation!
Are you an installation engineer?
Offer your customers a professional plant monitoring system with Solar-Log™ WEB Commercial Edition.

Fig.: C2 registration site

### Logging on to the Solar-Log™ WEB

If you did not activate Public Visibility for your plant during the registration, you have to log on to Solar-Log™ WEB first. You can skip logging on if Public Visibility is activated.

Enter your User and Password in the header bar and then click on LOG ON.

## Accessing the Plant overview

To display plants click on Plants from the menu on the left. In the window that appears, you can enter search criteria.

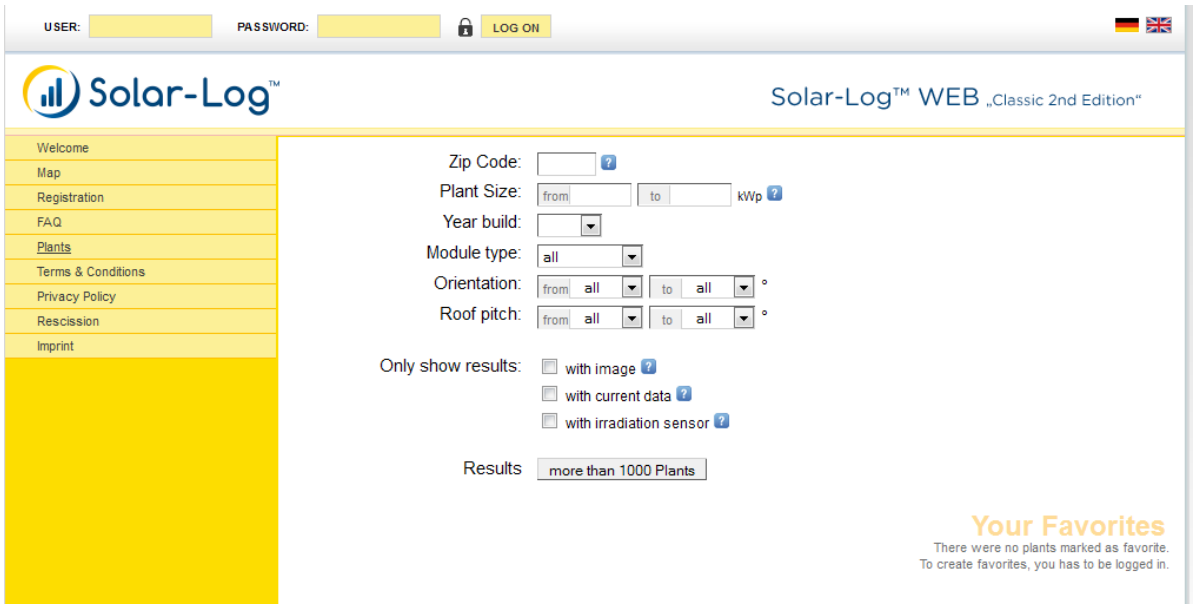



Fig.: C2 Plant search screen

Here you have the following search options:

- Zip code
- Plant size from - to
- Production year
- Module type
- Orientation from - to
- Roof pitch from - to

The results can also be filtered with the following criteria by using the Only results research option.

- with image
- with current data
- with irradiation sensor

The number of plants matching the search criteria is displayed in Results.

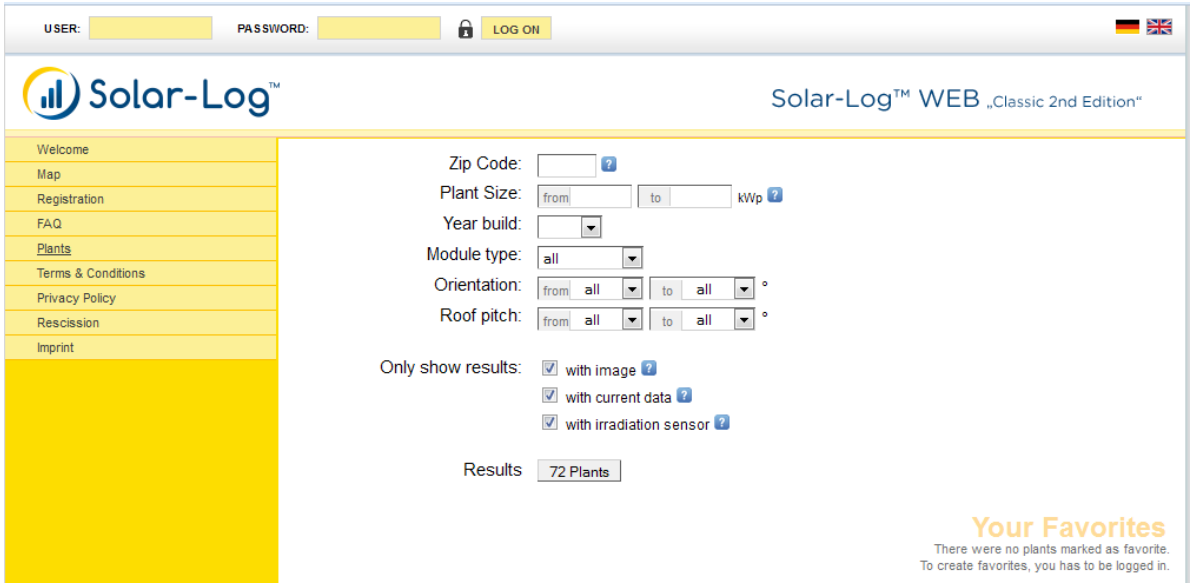



Fig.: C2 Plant search with a filter

The search results overview of the plants includes the number of installed inverters, their power output, orientation and roof pitch.  A standard default image is used if there is no publicly viewable image available.

In the column on the right, you also find an overview of the current plant yields.

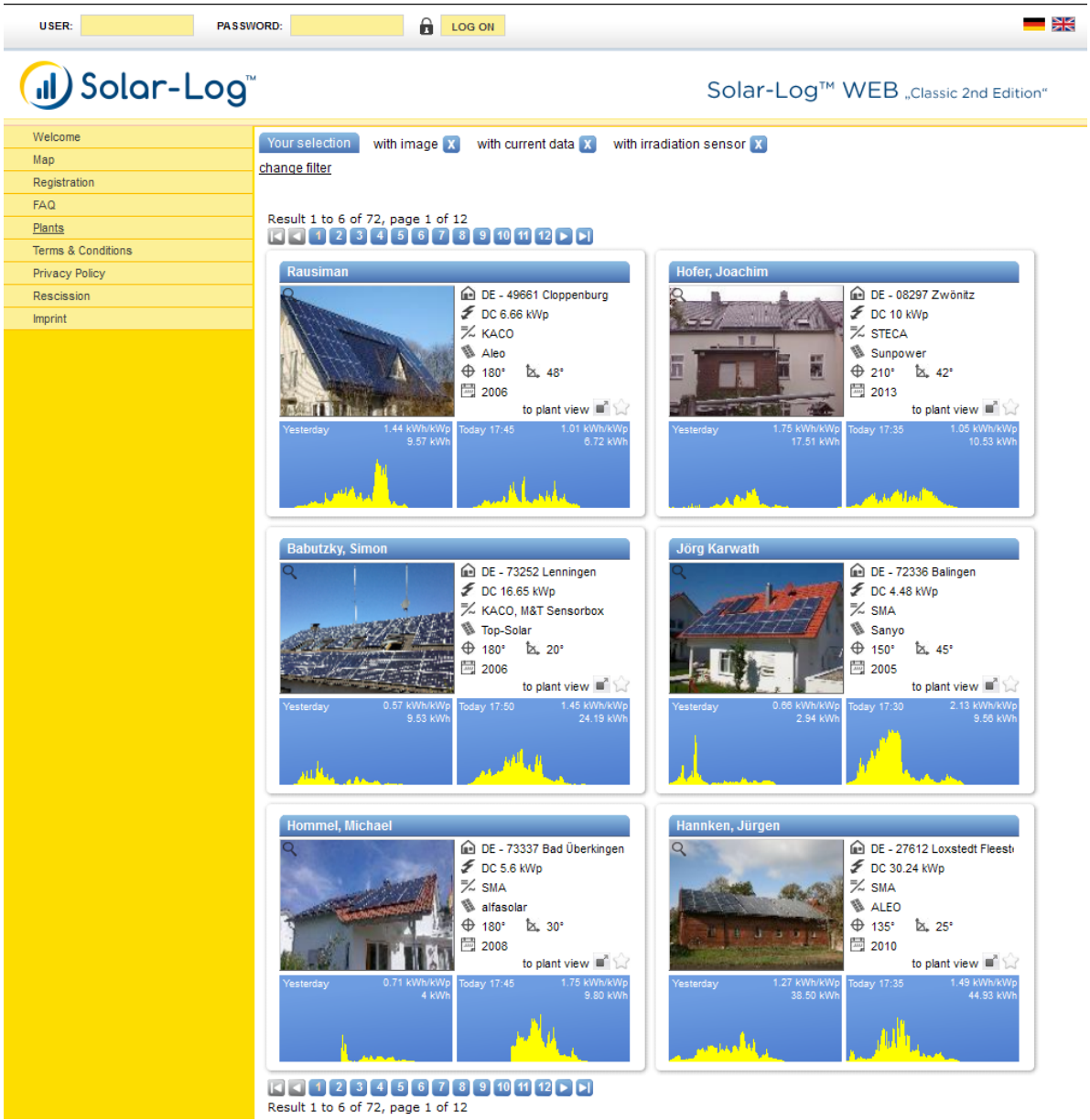



Fig.: C2 Plant search with results

Clink on the Plant link above the day graph from today.
The graphic overview of the plant is displayed.

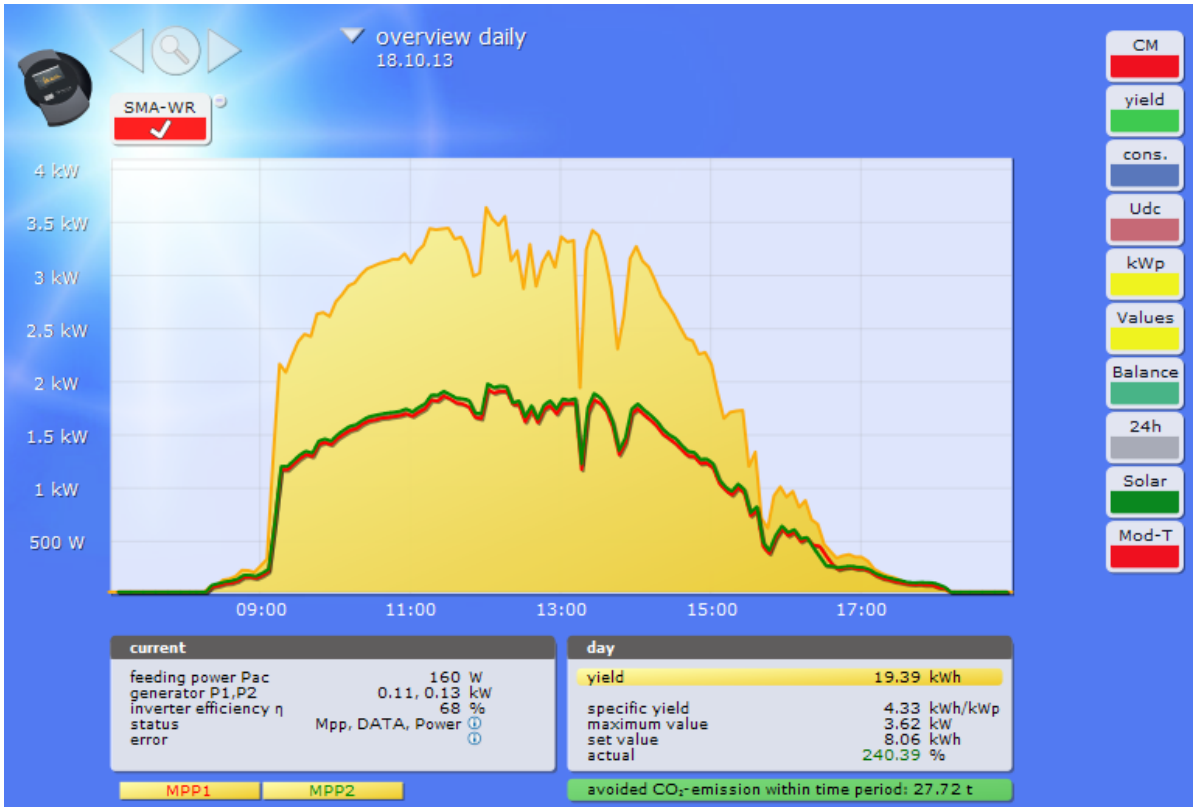


Fig.: C2 plant with a day curve

The graphic overview displays additional options that can be selected for your plant, such as current value, day yield and any fault notifications if present.
Create a bookmark in your browser for faster access to the plant details.

## 5.3 Accessing Yield data

### 5.3.1 How to navigate between different overviews

How you navigating the website overviews, corresponds to navigating the overview page from your local network.

Switching between overviews

Move your mouse to the inverted triangle on the left next to the displayed period.
An overview of the periods is displayed.

Fig.: C2 Navigating in the view

Click on the desired period.
The period overview is then displayed.

## 5.3.2 The meaning of the values in the overviews

The values displayed below the graph correspond to the values from the overview page from your local network.
Due to privacy concerns, the plant revenues are not displayed on the internet site.

## 5.3.3 Daily Overview

Start your browser and click on the bookmark for your plant.

- You might have to log on.
- The plant details overview is then displayed.

Select Graphic from the menu on the left.

- The plant's daily overview is displayed.

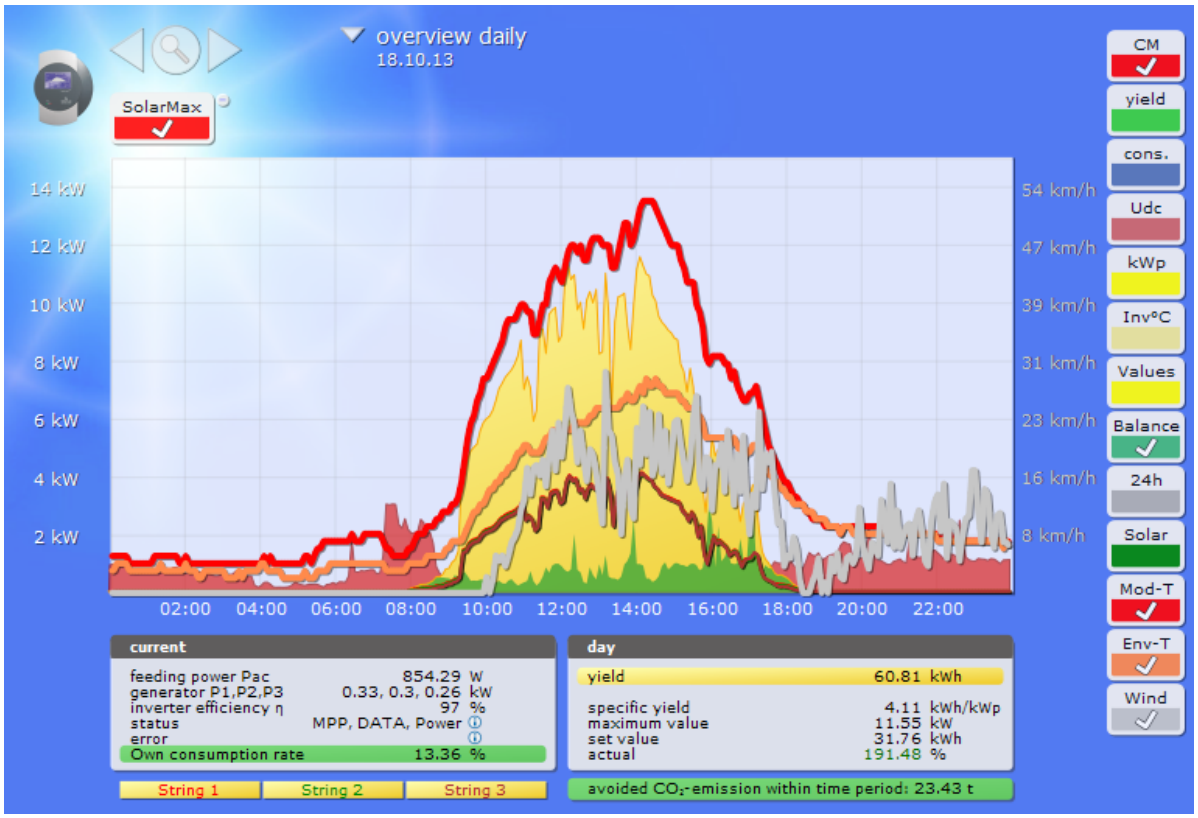



Fig.: Day curve with additional values

The daily yields are displayed as a curve graph. The dark green line indicates the daily target yield.
The different values throughout the day can be displayed by moving the mouse along the curve.

### Daily Overview selection buttons

- Yield: Yield curve from which the yield performance can be observed. Additionally, the dark green line indicates the daily target yield total.
- DC voltage: Generator voltage To view the voltage of individual strings, only one inverter can be selected.
- kWp: Switches the scale from "Output in watt" to "Output in kW/kWp." After that, only of the curves will be comparable in regard to their specific output. Diminishing module performance can also be recognized.
- 24h: Displays the output for every hour of the day in comparison to the consumption for the entire day.

### Additional functions with S0 power meters

The following displays are additionally available when a S0 power meter is connected to the Solar-Log™.

- CM: This displays the power consumption of your building as a graphic in watts.
- Cons.: This displays the power consumption of your building as a curve in kWh.
- Values: This displays various values for your inverter as text.
- Balances: This displays the relation between your power consumption and yield In the box at bottom on the left, the ration is also displayed as a percentage.

### Additional functions with the Sensor Box

Solar: Displays the reference value from a Irradiation sensor. The plant's daily output has to lay within the range measured by the sensor.

- M °C: This displays the module temperature that is measured by the Sensor Box.
- A °C: This displays the ambient temperature that is measured by the ambient temperature sensor.
- Wind: This displays the wind speed and strength. These values are measured by the wind sensor.

### Click on the selection button and then on the magnifying glass icon.

- The selected curve is displayed.

## 5.3.4 Monthly Overview

Select Monthly Overview from the navigation menu.

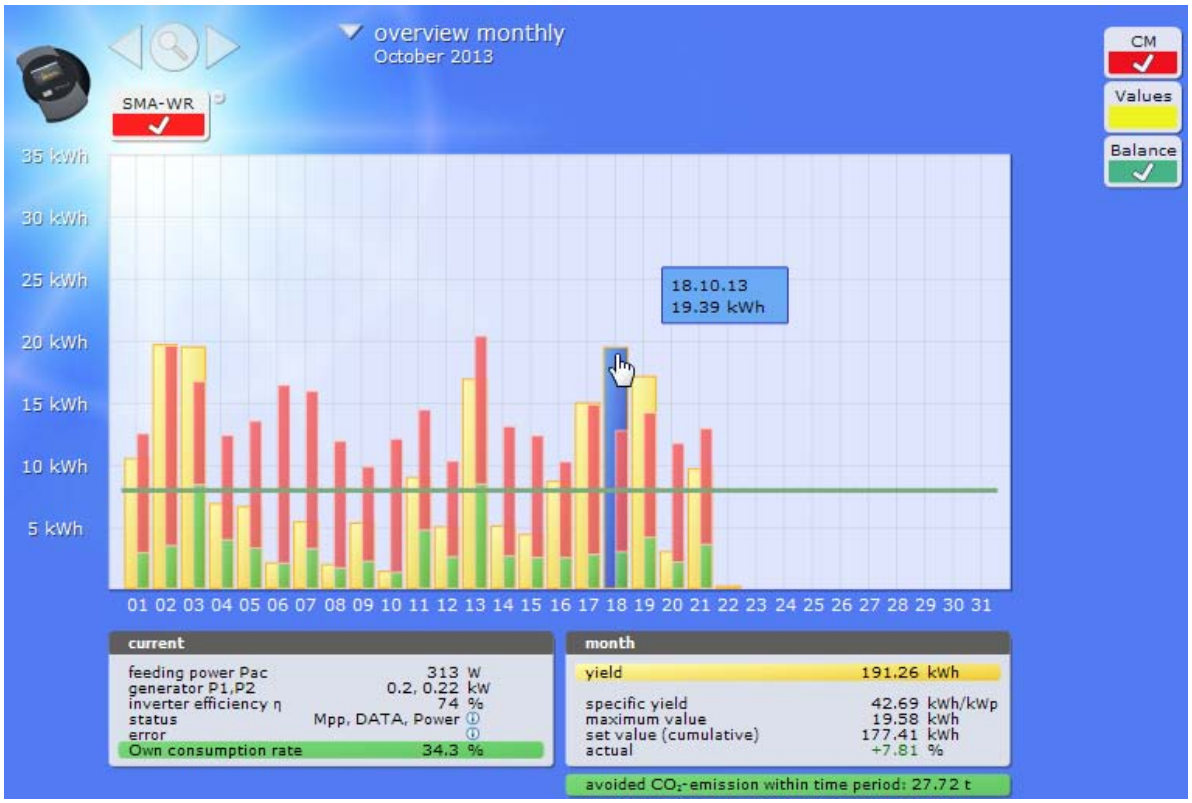



Fig.: Plant C2 - Monthly Overview

The daily yields from a month are displayed as a total in a bar graph. The dark green line indicates the month's target yield.

### Move the mouse above one of the day bars.

- The yield from the selected day is displayed.

### By clicking on a bar,

- the corresponding curve is displayed.

## 5.3.5 Annual Overview

Select Annual Overview from the navigation menu.

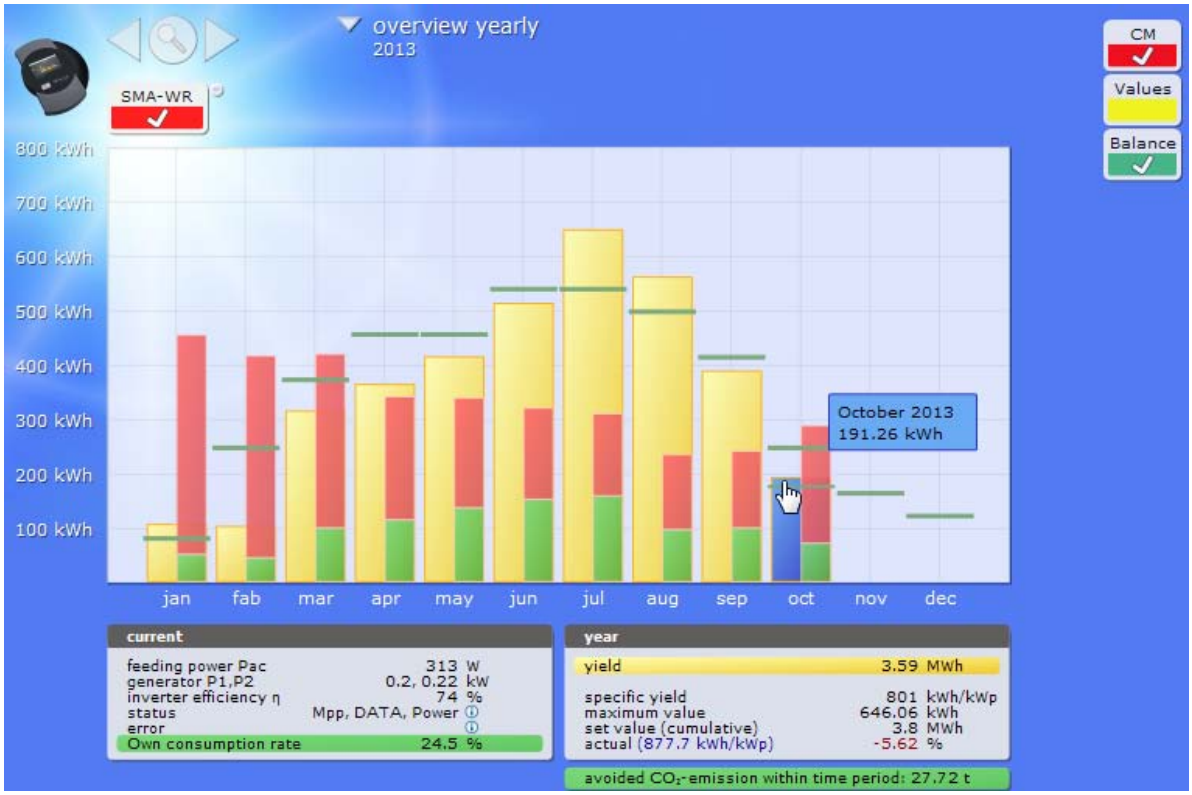



Fig.: Plant C2 - Annual Overview

The monthly yields from a year are displayed as a total in a bar graph. The dark green lines indicate the annual target yield.

The forecast value is calculated from the yields already achieved for the year and from the projected yields from the remaining months of the year.

Move the mouse above one of the month bars.

- The yield from the selected month is displayed.

By clicking on a bar,

- the corresponding monthly overview is displayed.

## 5.3.6 Total Overview

Select Overview of all Years from the navigation menu.

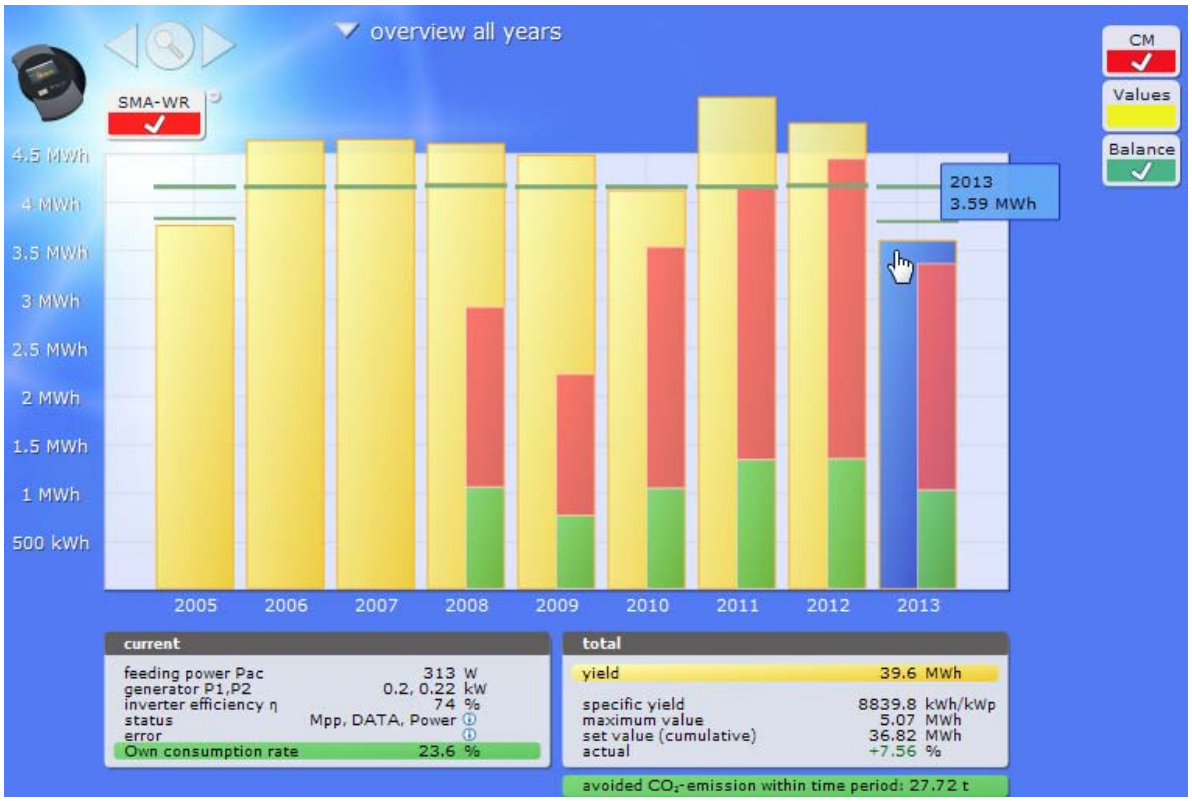



Fig.: Plant C2 - Total Overview

The individual annual yields are displayed as a total in a bar graph. The dark green line indicates the annual target yield. Two green lines are then displayed for the current year:

- The top line indicates the annual target.
- The bottom line indicates the accumulated annual yield compared to annual target.

Move the mouse above one of the year bars.

- The yield from the selected year is displayed.

By clicking on a bar,

- The corresponding annual overview is displayed.

Click on Linear Overview Years:

- The total linear overview is then displayed.

## 5.3.7 Accessing and filtering the Event log

Select Events from the menu on the left.

- The complete list of all of the system events is displayed.

All inverters | All days | All status | All errors | Reset selection

| 12.10.13 - 22.10.13 | | | |
|---|---|---|---|
| Inverter | Events from - to | Status | Error |
| 1 | 15.10.13 18:04 - 15.10.13 18:24 | Offline | - |
| 1 | 15.10.13 08:04 - 15.10.13 18:04 | MPP | - |
| 1 | 14.10.13 18:25 - 15.10.13 08:04 | Offline | - |
| 1 | 14.10.13 08:10 - 14.10.13 18:25 | MPP | - |
| 1 | 13.10.13 17:27 - 14.10.13 08:10 | Offline | - |
| 1 | 13.10.13 08:52 - 13.10.13 17:27 | MPP | - |
| 1 | 13.10.13 08:50 - 13.10.13 08:52 | Offline | - |
| 1 | 13.10.13 08:45 - 13.10.13 08:50 | MPP | - |
| 1 | 12.10.13 18:33 - 13.10.13 08:45 | Offline | - |
| 1 | 12.10.13 07:48 - 12.10.13 18:33 | MPP | - |
| 1 | 12.10.13 07:33 - 12.10.13 07:48 | Offline | - |
| 1 | 12.10.13 07:33 - 12.10.13 07:33 | Startup | - |
| 2 | 15.10.13 18:04 - 15.10.13 18:24 | Offline | - |
| 2 | 15.10.13 08:04 - 15.10.13 18:04 | MPP | - |
| 2 | 14.10.13 18:23 - 15.10.13 08:04 | Offline | - |
| 2 | 14.10.13 08:10 - 14.10.13 18:22 | MPP | - |
| 2 | 13.10.13 17:27 - 14.10.13 08:10 | Offline | - |
| 2 | 13.10.13 08:52 - 13.10.13 17:27 | MPP | - |
| 2 | 13.10.13 08:50 - 13.10.13 08:52 | Offline | - |
| 2 | 13.10.13 08:45 - 13.10.13 08:50 | MPP | - |
| 2 | 12.10.13 18:30 - 13.10.13 08:45 | Offline | - |
| 2 | 12.10.13 07:47 - 12.10.13 18:30 | MPP | - |
| 3 | 15.10.13 18:03 - 15.10.13 18:24 | Offline | - |
| 3 | 15.10.13 08:03 - 15.10.13 18:03 | MPP | - |
| 3 | 14.10.13 18:26 - 15.10.13 08:03 | Offline | - |
| 3 | 14.10.13 08:10 - 14.10.13 18:26 | MPP | - |
| 3 | 13.10.13 17:30 - 14.10.13 08:09 | Offline | - |
| 3 | 13.10.13 08:50 - 13.10.13 17:30 | MPP | - |
| 3 | 13.10.13 08:49 - 13.10.13 08:50 | Offline | - |
| 3 | 13.10.13 08:44 - 13.10.13 08:48 | MPP | - |
| 3 | 12.10.13 18:30 - 13.10.13 08:43 | Offline | - |
| 3 | 12.10.13 07:47 - 12.10.13 18:30 | MPP | - |
| 4 | 15.10.13 18:07 - 15.10.13 18:24 | Offline | - |
| 4 | 15.10.13 08:02 - 15.10.13 18:07 | MPP | - |
| 4 | 14.10.13 18:24 - 15.10.13 08:02 | Offline | - |
| 4 | 14.10.13 08:09 - 14.10.13 18:24 | MPP | - |
| 4 | 13.10.13 17:31 - 14.10.13 08:09 | Offline | - |
| 4 | 13.10.13 08:46 - 13.10.13 17:31 | MPP | - |
| 4 | 13.10.13 08:44 - 13.10.13 08:46 | Offline | - |
| 4 | 13.10.13 08:39 - 13.10.13 08:44 | MPP | - |
| 4 | 13.10.13 08:37 - 13.10.13 08:39 | Offline | - |
| 4 | 13.10.13 08:32 - 13.10.13 08:37 | MPP | - |
| 4 | 12.10.13 18:32 - 13.10.13 08:32 | Offline | - |
| 4 | 12.10.13 07:47 - 12.10.13 18:32 | MPP | - |

Fig.: Plant C2 - Notifications

Use the filter function to view a particular event or events from a particular day within the last 10 days.

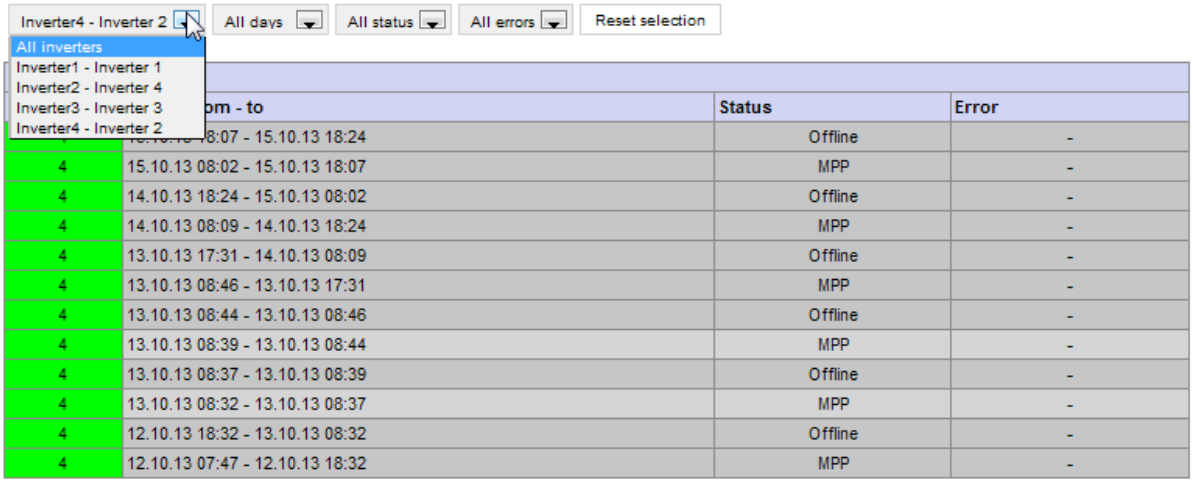



Fig.: Plant C2 - Filtered notifications

1. Select the desired inverters from the All inverters drop-box.
   - Only the events from the selected inverters are then displayed.
2. Limit your selection by selecting the desired day from the All Days drop-box.
   - Only the events from the selected day are then displayed.
3. Limit your selection further by selecting the desired day from the All Days drop-box.
   - The status selection options available are only those that occurred during the selected time period.
4. Additionally, you can limit your selection further by selecting the type of fault from the All Faults drop-box.
   - The fault selection options available are only those that occurred during the selected time period.
5. Click on Clear Selection to reset all of the filter settings.

# 6 Using the Solar-Log™ Android App

We offer a Solar-Log™ App for Android tablet PCs and smartphones to allow you to access your plant data at any time and from any location. The App is available for free from the Google Play store.
The App displays current and past yield data in a graphical form.

Note!

The manual and screen shots refer to the Android tablet PC. The operating instructions for smartphones may differ.
The differences are explained in detail in the chapter "Using the Android App with a smartphone."

### Requirements

Our Solar-Log™ App is compatible with every Android tablet PC and smartphone starting from OS version 2.3 Gingerbread (4.0 Ice Cream Sandwich is recommended).
The Solar-Log™ App only runs with the server solutions Solar-Log™ Web Classic 2 and the WEB Commercial Edition from Solare Datensysteme GmbH.

## 6.1 Installing the App

The App is available for free from the Google Play store.

### Loading the App

1. Search for "Solar-Log" in the Google Play store.
2. Follow the directions to download and install the App on your smartphone.
3. Start the App on your smartphone.
   - The start screen is displayed.

Fig.: The App icon

The App is started via the icon

## 6.2 Add plants

You can monitor as many plants with the App as are connected with a Solar-Log™.

1. Go to the toolbar to monitor a plant.

Fig.: The App's toolbar

2. Touch the symbol in the toolbar.

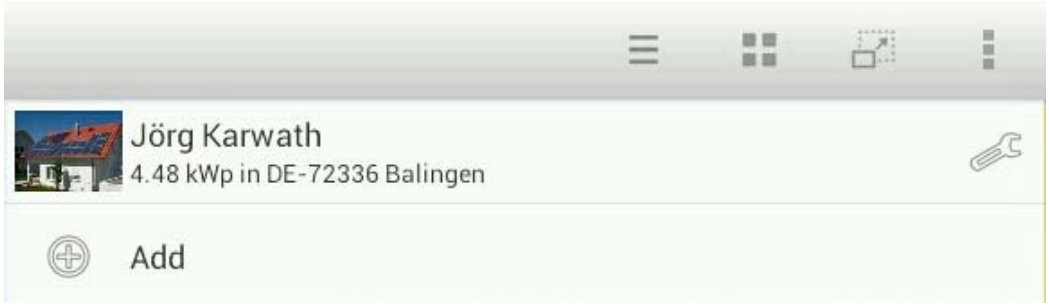



Fig.: Adding a plant to the App

3. Touch the plus symbol.
   - The screen Solar-Log™ App Access Data is then displayed.

Fig.: Entering the plant's access data

4. Enter the URL, Serial Number and Password from the registration email that you received from Solare Datensysteme GmbH.
5. After that, tap on the Load button.

Fig.: Entering the plant name in the App.

6. After that the Plant Name appears. Check that everything is correct and then touch OK.
7. The plant's current daily values will then be loaded. This can take a moment.

## 6.3 Plant settings

By selecting add Plants, you can adjust the settings for the view displayed.

1. Tab the ☰ symbol in the toolbar to go to the plant.

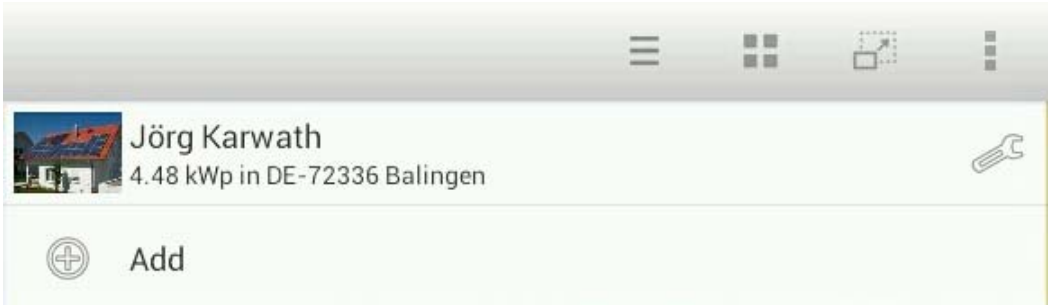



Fig.: Changing the plant display settings.

Tap on the symbol for the following settings:

- S0 meter
- Management

### 6.3.1 S0 meter

By selecting S0 meter, you have the option to adjust the settings for the view displayed.

1. Tap on the  symbol to get to the settings.
2. Tap on the S0 meter.

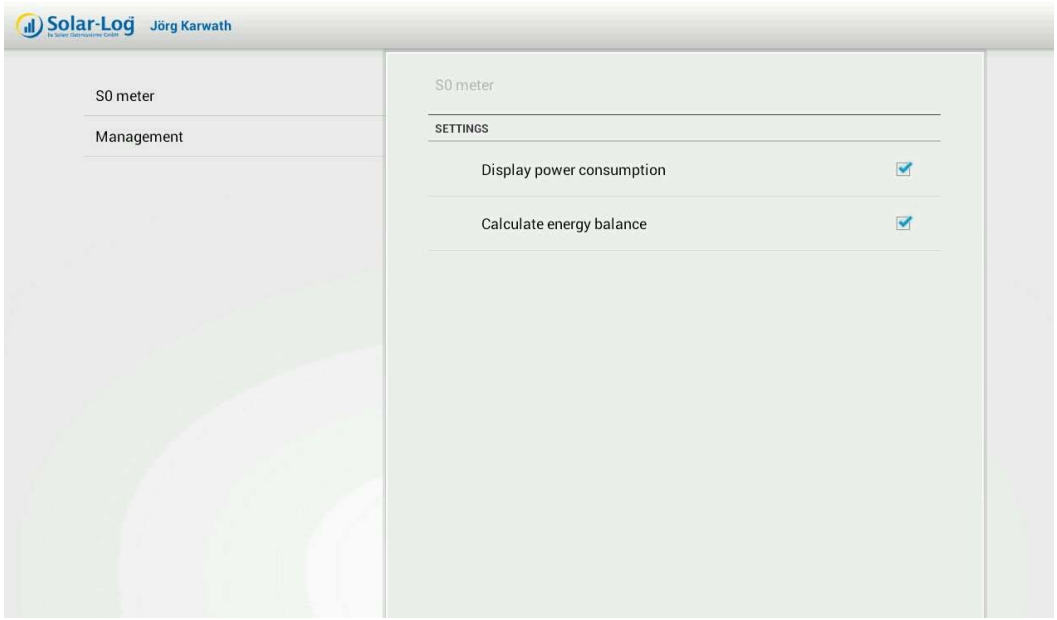



Fig.: S0 meter settings

3. The S0 meter's view settings has the following options:

- Display power consumption
- Calculate energy balance

### 6.3.2 Management

Be selecting Management, you can update the plant configuration, reset yield data or also delete the plant.

1. Tap on the symbol to go to the settings.
2. Tap on Management.

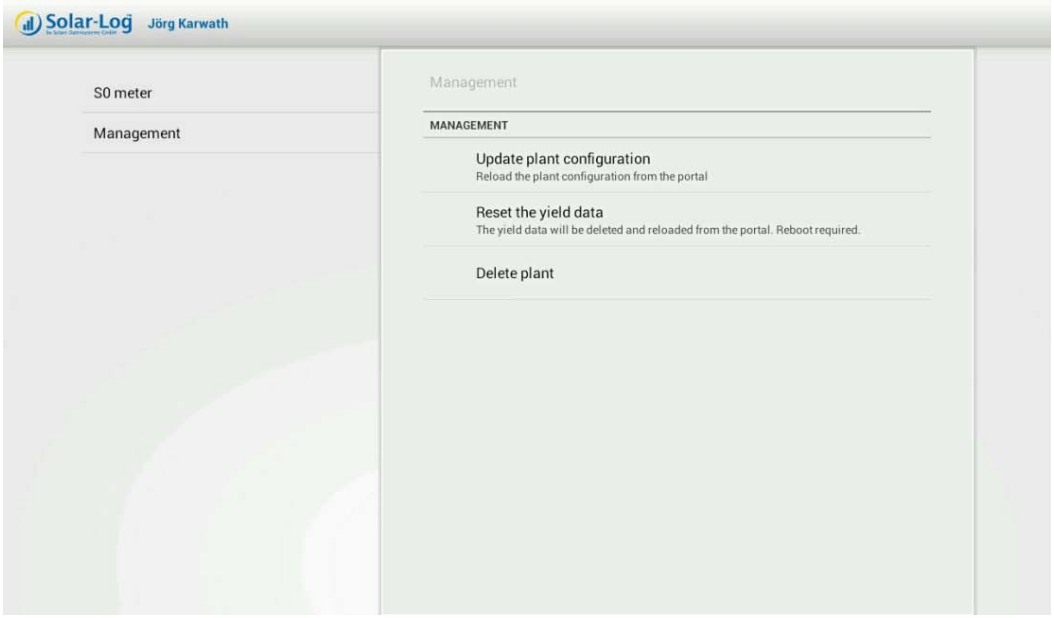



Fig.: Management settings

3. In the Management section, the following options are available:

- Update plant configuration. This reloads the plant configuration from the portal.
- Reset the yield data. This option deletes the yield data and reloads it from the portal. It is necessary to restart the App.
- Delete plant. ThIs option completely deletes the plant.

## 6.4 The Toolbar

You can select the desired menu from the toolbar at the top right corner.

Fig.: Toolbar.

Use the symbol to add a plant

By selecting the symbol, you can display various yield values.

- Day
- Month
- Year
- Total
- CO2

Tap on the symbol to start the slide show.

By selecting the symbol, you can perform various actions:

- Update
- Today
- Settings
- End

## 6.5 Accessing Yield values

After your plant has been correctly recognized, the yield values are displayed with the current daily values in the overview.

Note!

The data is only updated when your mobile device is connected to the Internet.

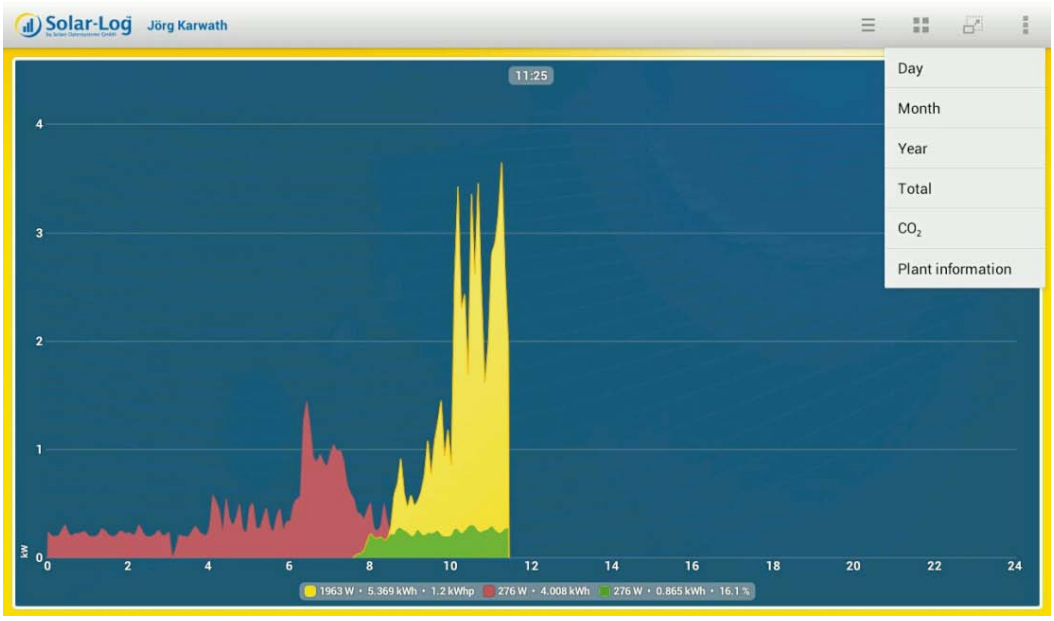



Fig.: Day curve with a menu selection

By selecting the symbol, you can display various yield values.

- Day
- Month
- Year
- Total
- CO2

### 6.5.1 Daily Overview

1. Tap on the symbol in the toolbar at the top right corner of the screen.

The navigation screen then appears.

2. Select Day to go to daily overview.

Fig.: Day curve.

3. Swipe to the left to go to the next view or to the right to go back to the previous view.
4. Swipe up or down to change the module views.

### 6.5.2 Monthly Overview

1. Tap on the symbol in the toolbar at the top right corner of the screen.

The navigation screen then appears.

2. Select Month to go to monthly overview.

Fig.: Monthly Overview as a bar graph

The daily yields of the selected month are displayed as a bar graph.

3. Swipe to the left to go to the next view or to the right to go back to the previous view.
4. Swipe up or down to change the module views.

### 6.5.3 Annual Overview

1. Tap on the symbol in the toolbar at the top right corner of the screen.

The navigation screen then appears.

2. Select Year to go to the annual overview.

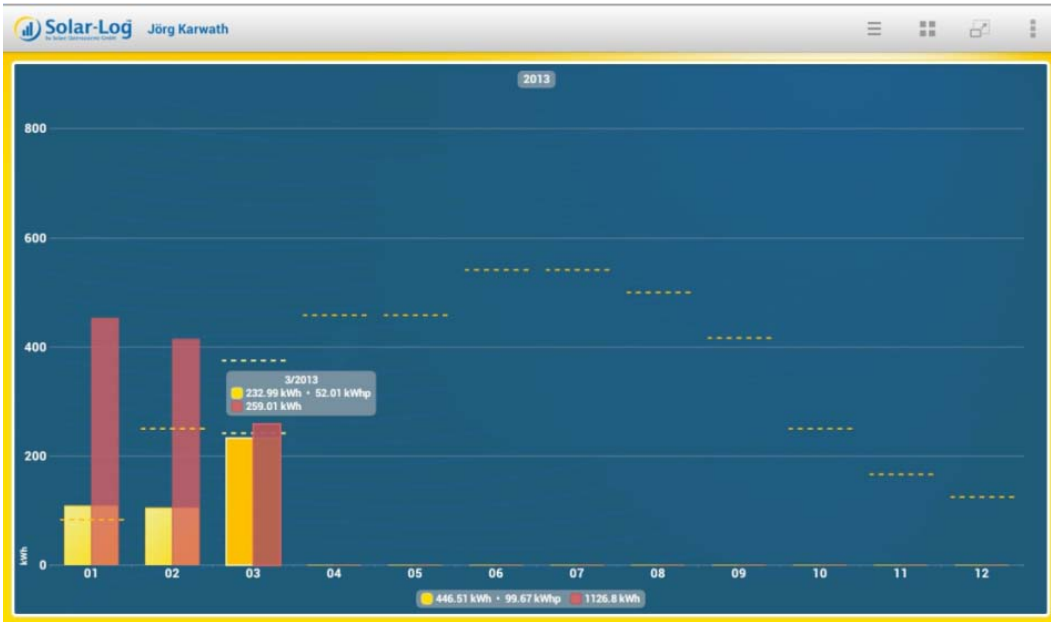



Fig.: Annual Overview as a bar graph

The monthly yields of the selected year are displayed as a bar graph.

3. Swipe to the left to go to the next view or to the right to go back to the previous view.
4. Swipe up or down to change the module views.

### 6.5.4 Total Overview

1. Tap on the symbol in the toolbar at the top right corner of the screen.

The navigation screen then appears.

2. Select Total to go to the Total Overview.

Fig.: Total Overview as a bar graph

Swipe up or down to change the module views.

## 6.6 Accessing CO2 savings

1. Tap on the symbol in the toolbar at the top right corner of the screen.

The navigation screen then appears.

2. Select CO2.

The total accumulated amount of carbon dioxide emissions that have been prevented by your plant is displayed.

Fig.: Avoided C02 emissions

The savings shown is calculated using the quantity of carbon dioxide that would have been created in order to generate the same amount of energy using fossil fuels.

## 6.7 App settings

Tap on the ⋮ symbol in the toolbar at the top right corner of the screen.

The navigation screen then appears.

- Update
- Today
- Settings
- End

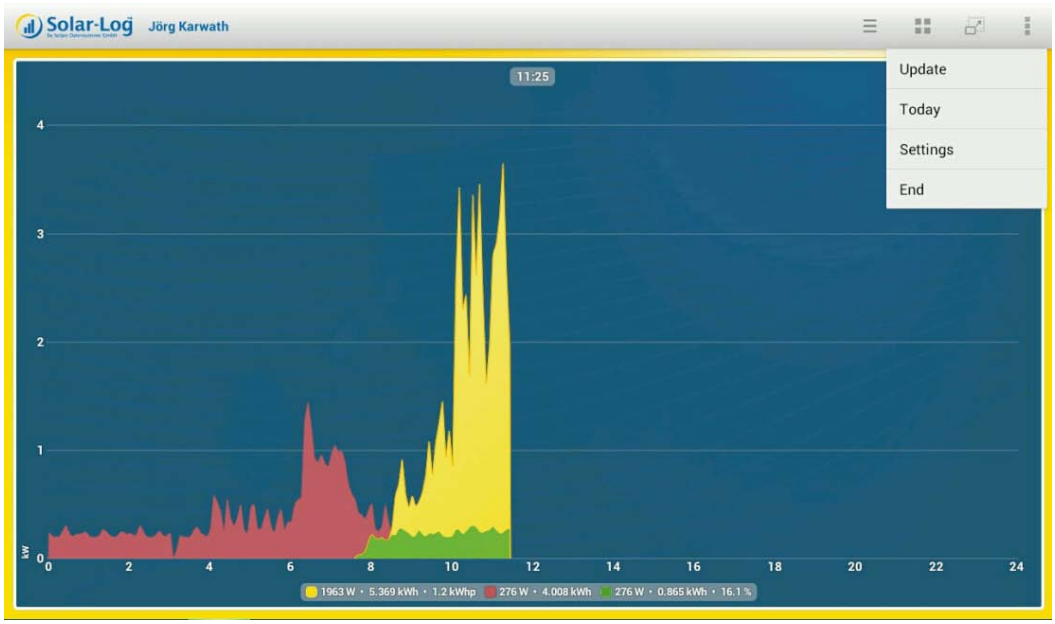



Fig.: Day curve and menu

- Select Update to update the plant's data.
- Select Today to leave the yield data and  to switch to the current daily overview.
- Select End to quit the application.

By selecting Settings from the menu, the following categories are available:

- General
- Slide show
- Legal Disclaimer

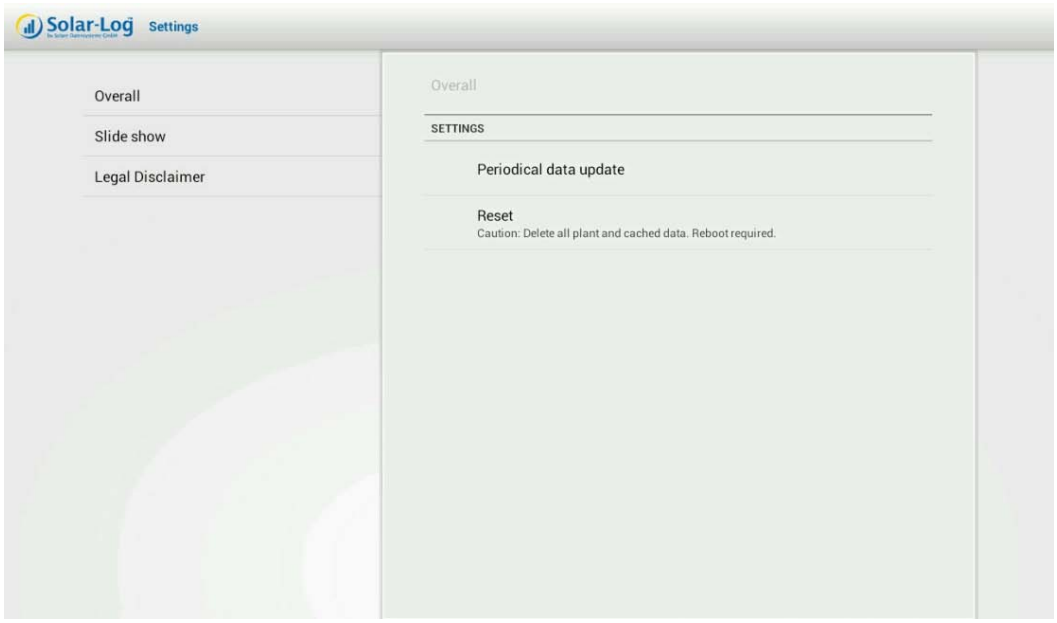



Fig.: General settings.

## 6.7.1 Periodical data update

1. Under General, tap on Periodical data update

The following setting options will become visible.

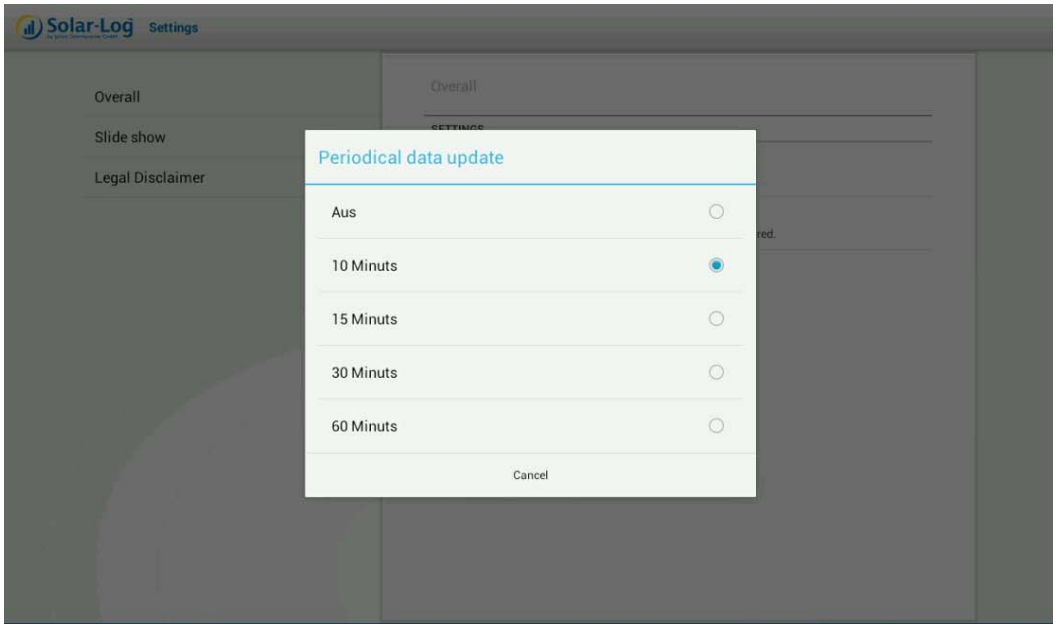



Fig.: Periodical data update settings

2. Tap on the update interval to automatically update the data. The window then automatically closes.

### 6.7.2 Reset

With the Reset function, you can delete all of the plants and cached data.
After tapping on Reset, you will receive the following message:

- Click on Ok to confirm the selection and to delete the plants and cached data. (The application automatically closes and has to be restarted.)
- You return to the main menu by clicking on Cancel.

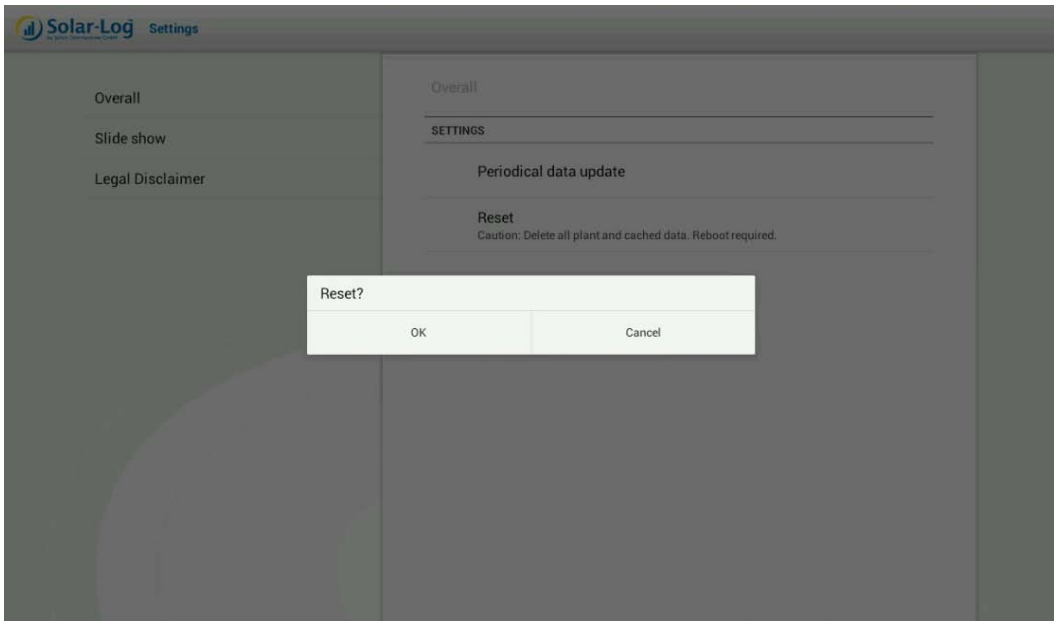



Fig.: Reset function.

### 6.7.3 Slide show

In the Slide Show menu, you have the option to adjust the display duration settings and to select a background image.

The following settings are available by selecting Slide Show.

- Display duration. You can determine after how many seconds the image should switch.
- Background image. You can select the background image that is to be displayed when the respective value is activated.

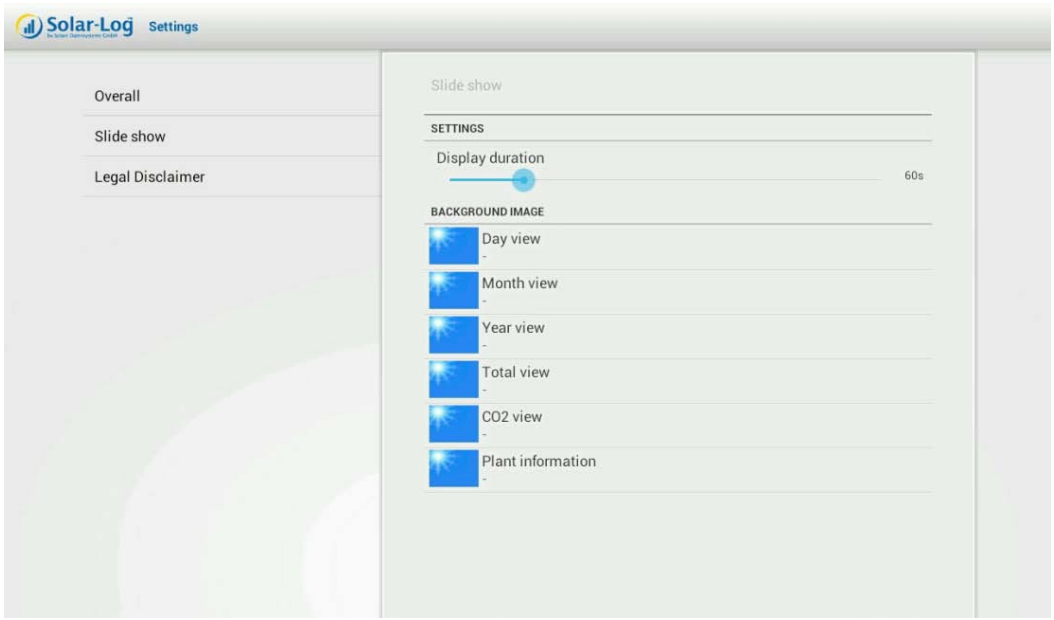



Fig.: Slide Show settings

### 6.7.4 Legal Disclaimer

You can see the App's version and who is legally responsible by selecting Legal Disclaimer.

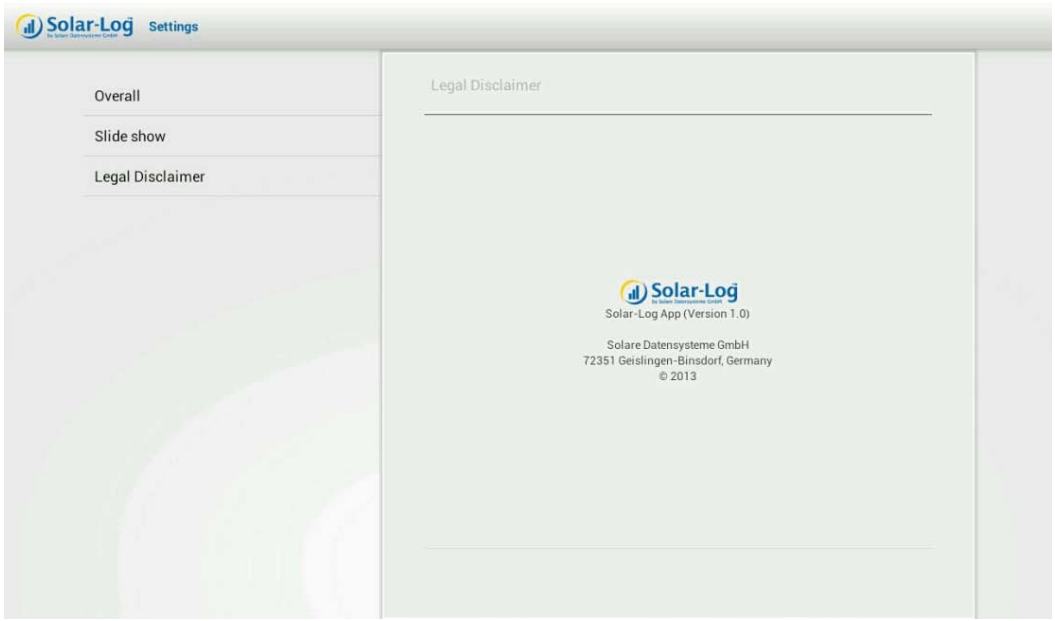



Fig.: Legal Disclaimer

## 6.8 The Yield Data as a Slide Show

With the slide show function, you can turn your tablet PC or smartphone into an "electronic picture frame". The "picture frame" alternates in displaying the various modules of the Solar-Log™ App.

1. Tap the screen.
   - The slide show function appears in the top right edge of the screen by touching the symbol.

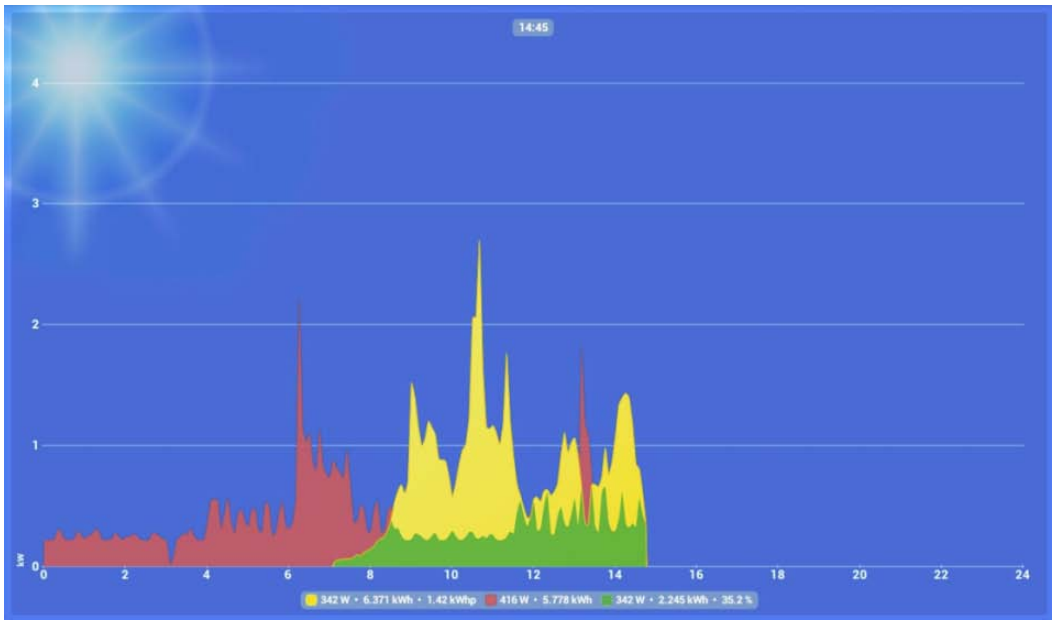



Fig.: Slide Show Format

2. Tap on the symbol and place your tablet PC or smartphone into a cradle.
   - Now you can always see the current values.

## 6.9 Using the Android App with a Smartphone

When using the Android App with a smartphone, some menus differ from those of a tablet PC. In contrast to the tablet PC, there are minor differences between the vertical and horizontal format.
The configuration possibilities for tablet PCs and smartphones, however, are identical.

### 6.9.1 Smartphone vertical format

Use the
and symbols from the toolbar in the top right corner of the screen to add plants and adjust settings.
Similarly, use the symbol to select the yield data.

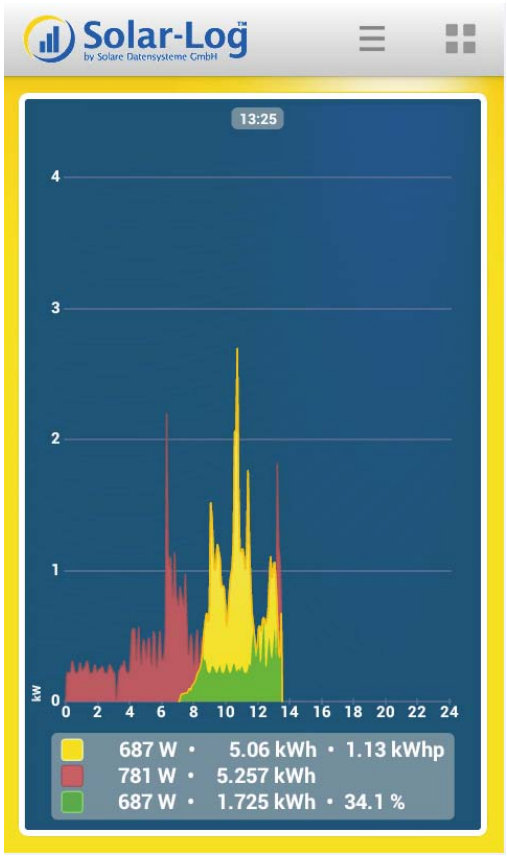



Fig.: View of the Smartphone in the vertical format

When in the vertical format, click on the smartphone's Menu button for the App Settings and Slide show. (See your smartphone's manual.)
After pressing the Menu button, the options that are accessible with the App settings symbol and Slide show symbol on the tablet PC appear.

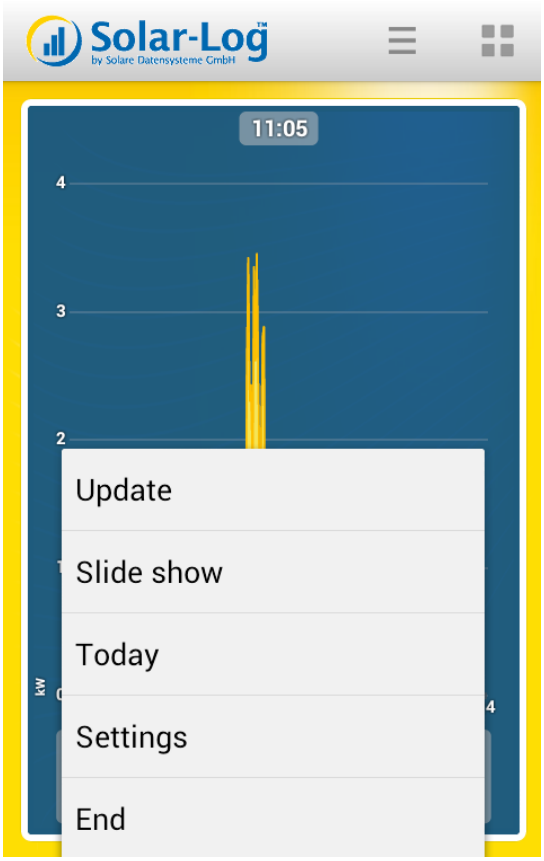



Fig.: Selection via the menu button

Use the Back button on the smartphone (see the phone's user manual) to return to the program.

### 6.9.2 Smartphone - horizontal format

The only difference between the horizontal and vertical format is that slide show can also be selected from the toolbar.
The App settings have to be accessed with the smartphone's Menu button.

Fig.: Selection via the menu button - horizontal format

Use the Back button to return to the program.

### 6.9.3 Solar-Log™ Widget for Smartphones

With an Android smartphone, you can display yield reports from your plant with the Solar-Log™ Widget. (Activating Widgets: see the phone's user manual).
The Widget allows the plant's current daily yields to be display directly on your smartphone's home screen.

#### Changing the view:

The view can be directly changed in the App. All you have to do is tap on the Widget.

#### Adjusting the size and positioning the Widget:

Press on the Widget 1 to 2 seconds to change the size. A box with four points pops up. Move one of the four points to define the size.
To select the Widget's position, press down on the Widget and move it to the desired position.

Note!

2x1, 2x2 and HD can be selected for the Widget for devices with Android versions less
than 4.0.
Only HD is available for Android versions greater than 4.0.
The HD format for the newer Android versions, however, can be displayed in variable sizes.

# 7 Using the Solar-Log™ APP iPhone V3 for iPhones

We offer a Solar-Log™ App iPhone V3 for iPhones, iPads and iPod Touches to allow you to access your plant data at any time and from any location. The Solar-Log™ App is available for free from the Apple App Store.
The App displays current and past yield data in a graphical form. In addition, there is the possibility to display power consumption. Intuitive finger gestures (swipes) enable you to quickly navigate between different time period views (daily, monthly, yearly and total).

Note!

When starting the App for the first time, there is a brief introduction on how to operate the App.

### Requirements

Our Solar-Log™ App is compatible with every iPhone, iPod Touch and iPad starting from iOS version 3.0.

Note!

The Solar-Log™ App only runs with the server solution Solar-Log™ Web Classic 2 and the WEB Commercial Edition from Solare Datensysteme GmbH.
The Solar-Log™ Web Classic 1* and Self-made* editions are not supported.
*It only pertains to new plants; existing plants will continue to be displayed.

## 7.1 Installing the App

The App is available for free from the Apple App Store.

### Loading the App

1. Search for "Solar-Log" in Apple App Store.
2. Follow the directions to download and install the App on your mobile iOS device.

### Start the App

Fig.: The App icon

3. Start the App on your iOS device by tapping on the icon.
   - The start screen is displayed with the saved plant.

## 7.2 Add plants

You can monitor as many plants with the App as are connected with a Solar-Log™.

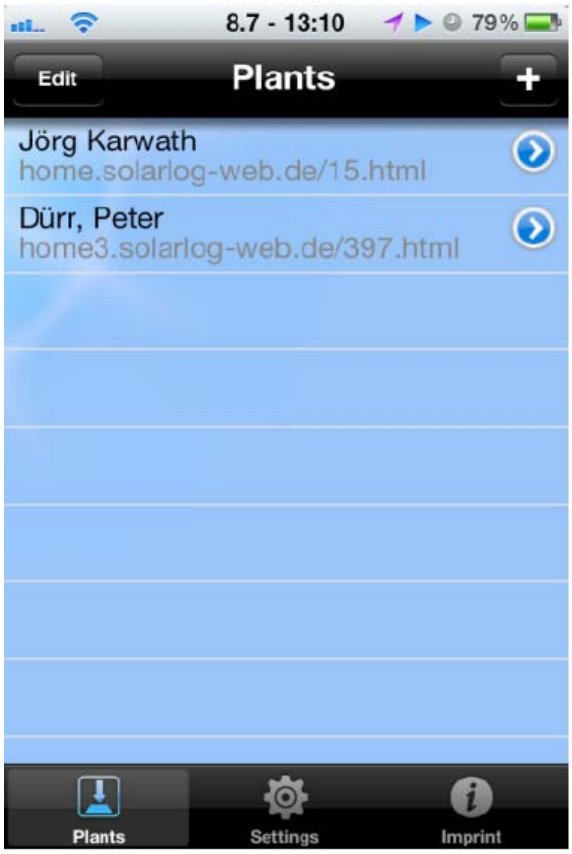



Fig.: Saved plants

1. Touch the + symbol.
   - The screen New Plant is then displayed.

Fig.: Add plants

2. Enter the URL, Serial Number and Password from the registration email that you received from Solare Datensysteme GmbH.
3. Save the added plant.
4. The plant now appears with a name and URL in the plant menu.

## 7.3 Accessing Yield data

After your plant has been correctly recognized, the yield data is displayed in the plant overview.

Note!

The data is only updated when your iOS device is connected to the Internet.

### 7.3.1 How to navigate between different overviews

1. Start the App

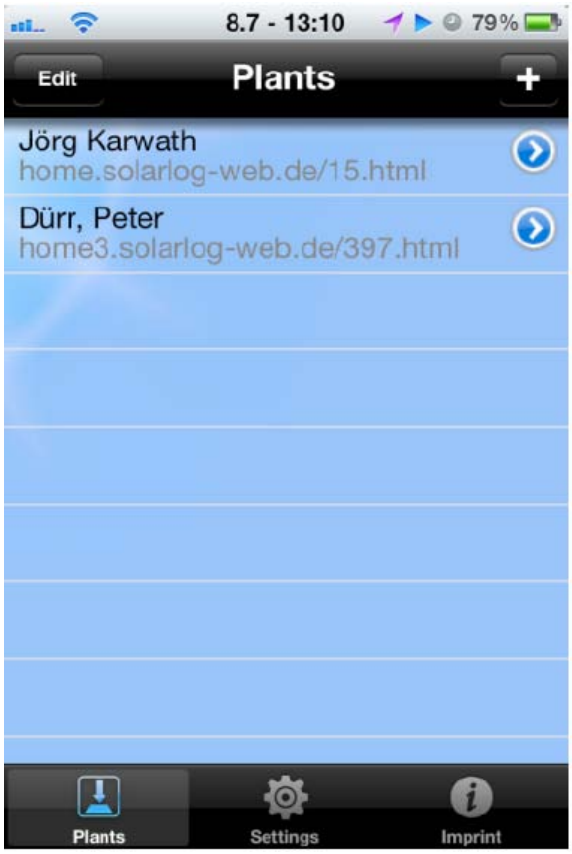



Fig.: Saved plants

2. Touch the blue arrow next to the name of your plant. The current Daily Overview is then displayed with the yield values, percentage (based on the forecast) and consumption (only if a meter is connected and activated, see the chapter "Accessing Plant Data").
3. By touching the screen, a menu appears on the top and bottom the screen from which you can select the desired view.

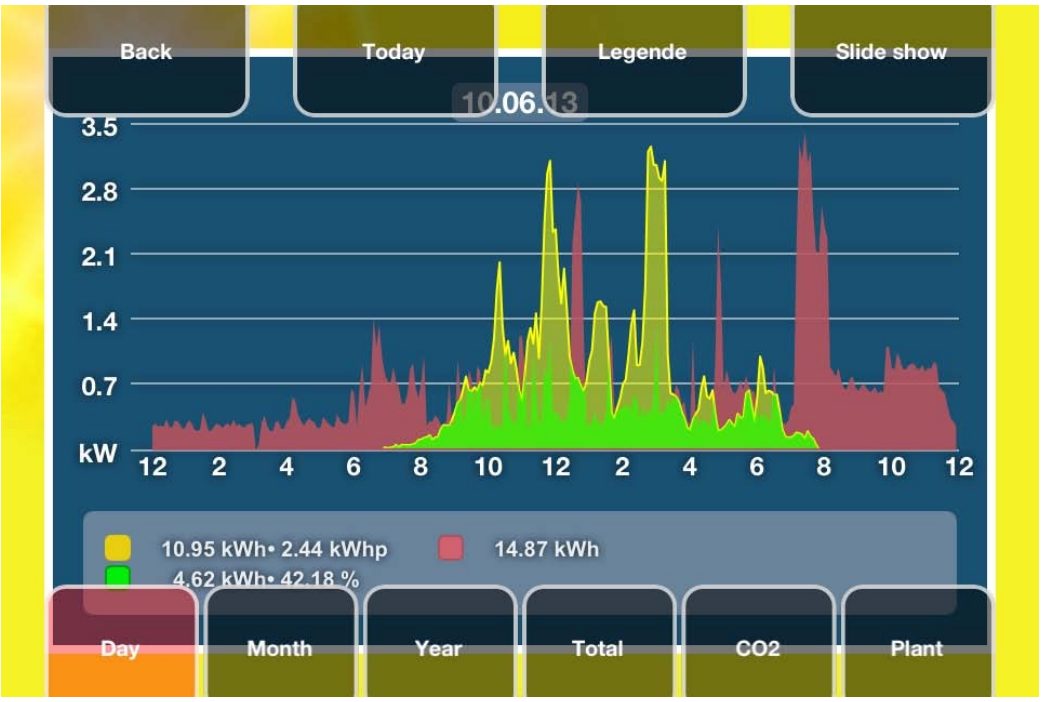



Fig.: Day curve with the top and bottom menu selection

## 7.4 The top menu bar

The following items can be selected from the top menu bar:

- Back
- Today
- Legend
- Slide show

Touch Back to go back to the plant settings page.

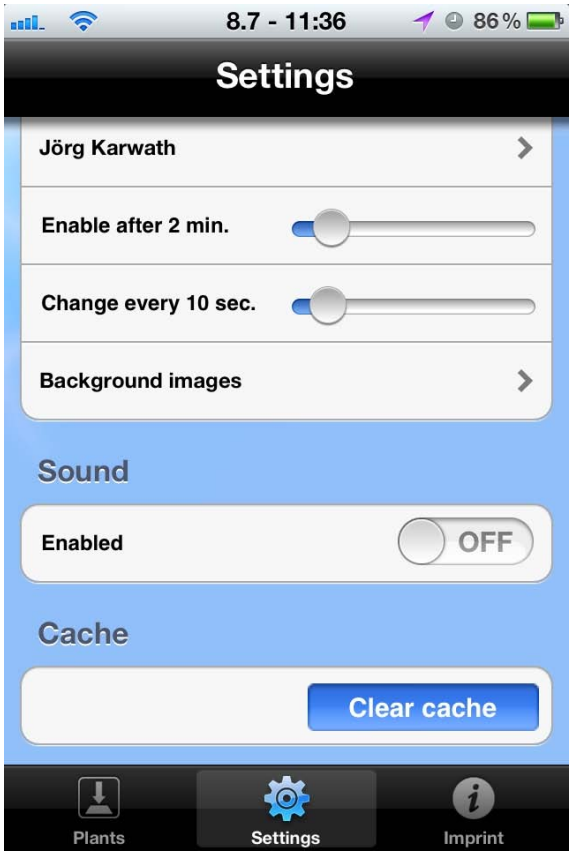



Fig.: Plant settings.

The following settings can be configured:

- Update intervals
  - Plant update intervals are from 5 to 60 minutes.
- CO2
  - The CO2 factor can be adjusted from 0.0 to 1.0 (see the chapter “Viewing CO2 Savings”).
- Slide Show (see the chapter “The Yield Data as a Slide Show”).
- Sound (see the chapter “The Yield Data as a Slide Show”).
- Clear cache.
  - Delete all of the App's cached data. It is necessary to restart the App.

Touch Today from any view to go to the current Daily values.

Touch Legend to hide and unhide these values.

Touch Slide Show to start this with the previously adjusted settings. (see the chapter “The Yield Data as a Slide Show”)

## 7.5 The bottom menu bar

The following items can be selected from the bottom menu bar:

- Day
- Month
- Year
- Total
- CO2
- Plant

### 7.5.1 Daily Overview

1. Tap the screen.
   - The bottom menu bar is then displayed.
2. Select Day to go to the Daily Values.

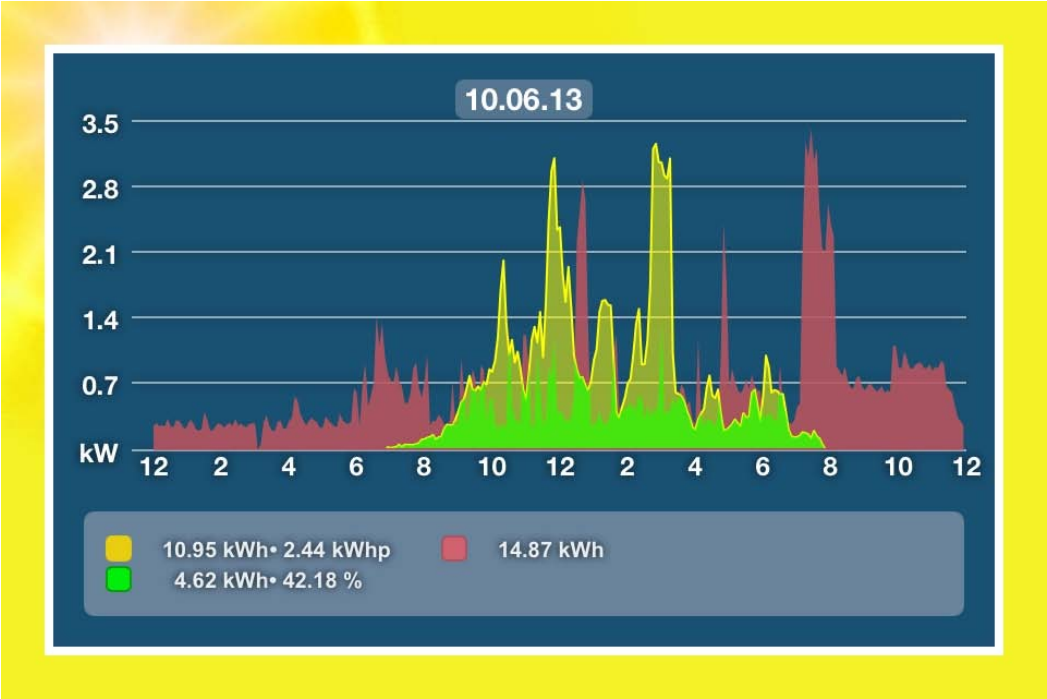



Fig.: Day curve - horizontal format

The daily yields are displayed as a graphical curve.

1. Rotate your iOS device horizontally for a better view.
2. Swipe to the left to go to the next view or to the right to go back to the previous view.
3. Swipe up or down to change the module views.

## 7.5.2 Monthly Overview

1. Tap the screen.
   - The bottom menu bar is displayed.
2. Select Month to go the monthly values.

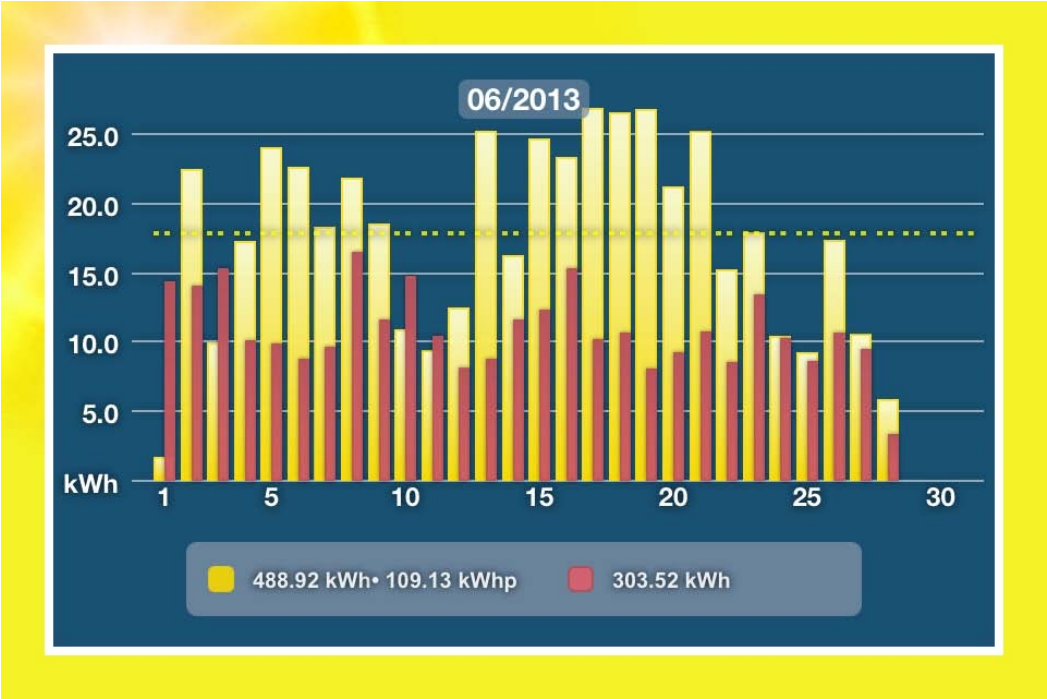



Fig.: Monthly Overview in horizontal format

The daily yields of the selected month are displayed as a bar graph. The dotted line in the view displays the plant's calculated target value based on the annual forecast.

3. Swipe to the left to go to the next view or to the right to go back to the previous view.
4. Swipe up or down to change the module views.

### 7.5.3 Annual Overview

1. Tap the screen.
   - The bottom menu bar is displayed.
2. Select Year to go the yearly values.

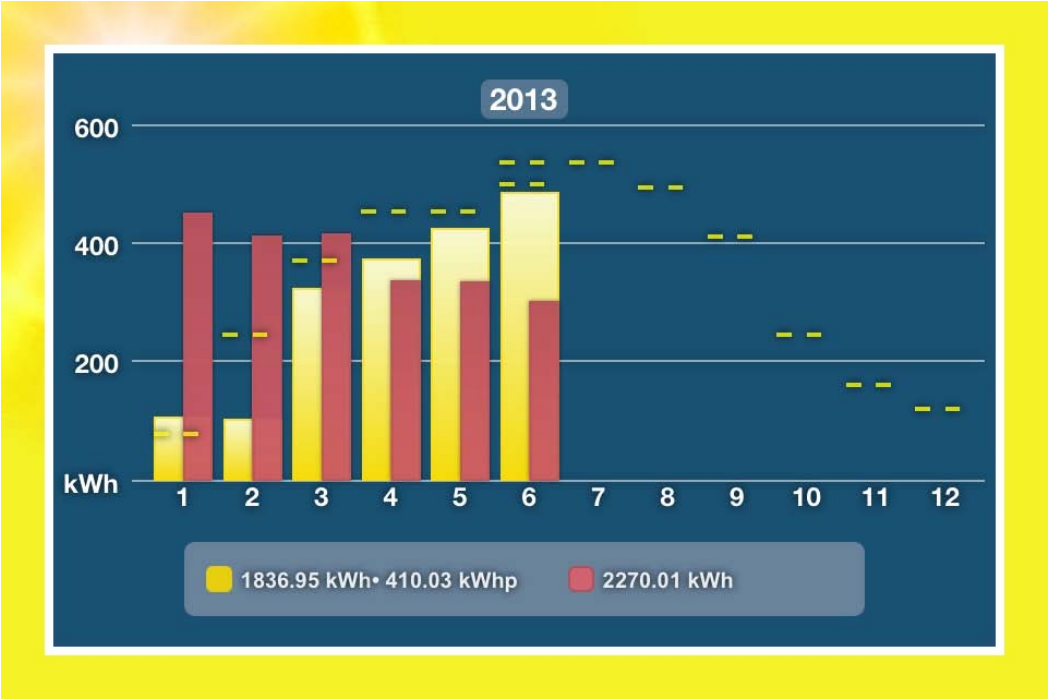



Fig.: Annual Overview in horizontal format

The monthly yields of the selected year are displayed as a bar graph. The dotted line in the view displays the plant's calculated target value based on the annual forecast.

3. Swipe to the left to go to the next view or to the right to go back to the previous view.
4. Swipe up or down to change the module views.

## 7.5.4 Total Overview

1. Tap the screen.
   - The bottom menu bar is displayed.
2. Select Total to go to the Total View.

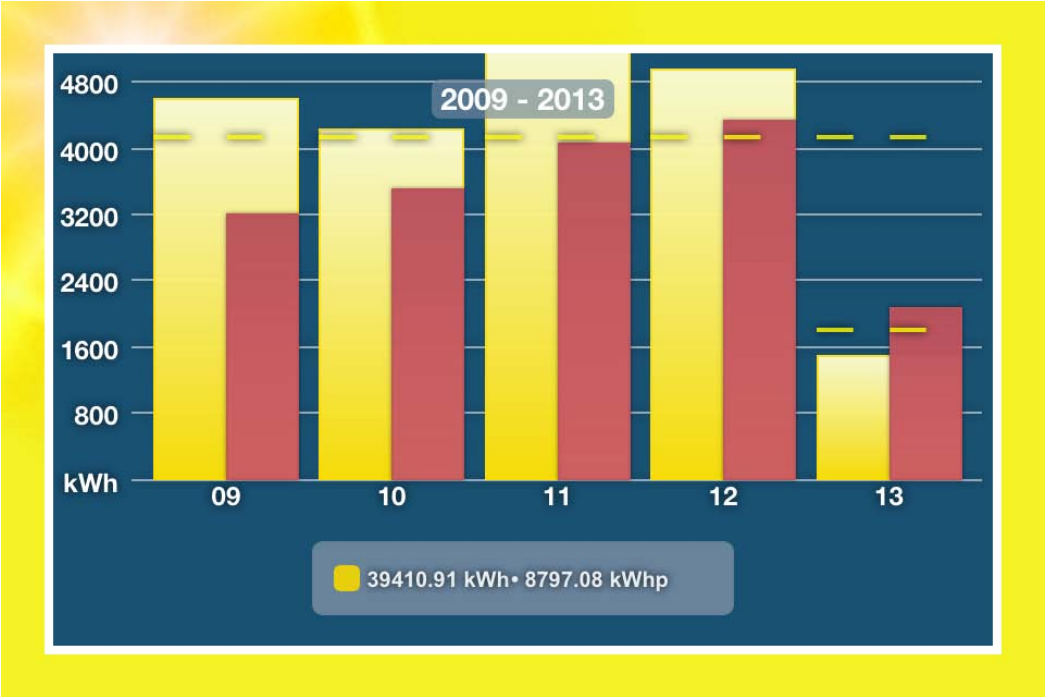



Fig.: Total Overview in horizontal format

The annual yields of the total view are displayed as a bar graph. The dotted line in the view displays the plant's calculated target value based on the annual forecast.

3. Swipe up or down to change the module views.

## 7.6 Viewing CO2 savings

1. Tap the screen.
   - The bottom menu bar is displayed.
2. Select CO2.
   - The total accumulated amount of carbon dioxide emissions that have been prevented by your plant is displayed.

Fig.: CO2 savings

- The $CO_2$ savings depends on how much $CO_2$ emissions are produced to generate 1 kWh of power (g/kWh).

## 7.7 Viewing Plant data

1. Tap the screen.
   - The bottom menu bar is then displayed.
2. Select Plant to go to the page with the plant details.

The page displays the following plant data:

- Plant Name
- Plant Location
- Modules
- Inverter Type
- Plant Power Output
- Installation Date
- Orientation of the plant and pitch of the modules
- Number of inverters
- Consumption
- Inverter Label
- Connected Senors

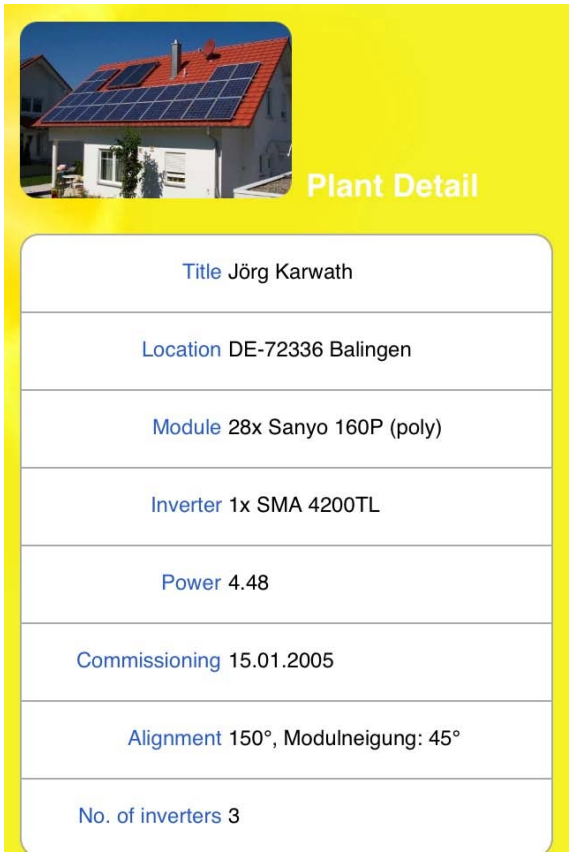



Fig.: Plant data

Fig.: Display settings

In addition, you can also adjust the following settings from these menu items:

- Images.
  - Select plant image.
  - Select background image.
- Consumption (can only be activated if a meter is connected).
  - Activate display power consumption (has to be manually activated).
  - Activate calculate energy balance (has to be manually activated).

## 7.8 The Yield Data as a Slide Show

With the slide show function, you can turn your iOS device into an "electronic picture frame". The "picture frame" alternates in displaying the various modules of the Solar-Log™ App.
The Slide Show function can be configured in the settings menu.

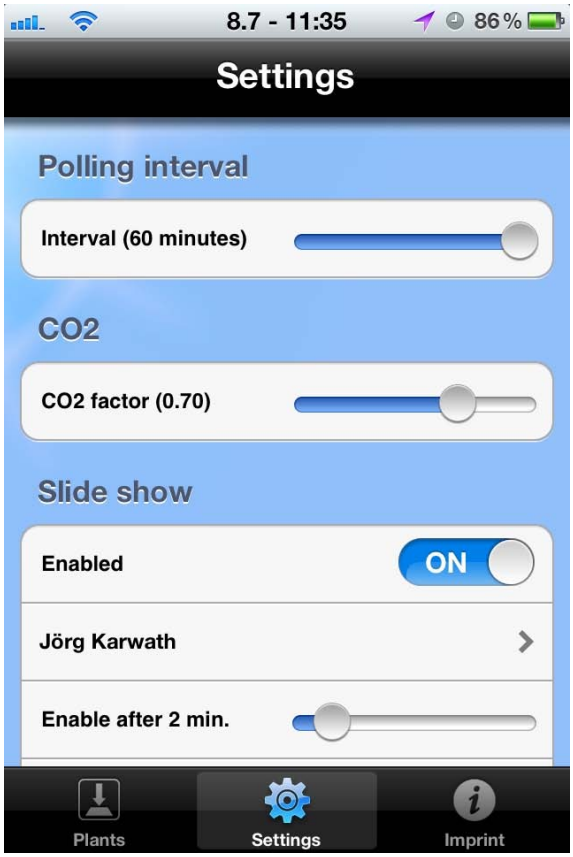



Fig.: Slide Show settings.

In addition to the activating the Slide Show function, the following options can be configured:

- Enable after - adjustable from 1 to 10 minutes.
  - Time settings for when the Slide Show starts
- Change every – adjustable from 5 to 60 seconds.
  - Interval in which the images switch.
- Background image.
  - Adjust which background image is set for the Slide Show.
- Sound.
  - Here the standard sound can be enabled. By default, this function is deactivated.
- Cache.
  - Delete all of the App's cached data. It is then necessary to restart the App.

### 7.8.1 Start the Slide Show

1. Tap the screen. The menu bar is then displayed.

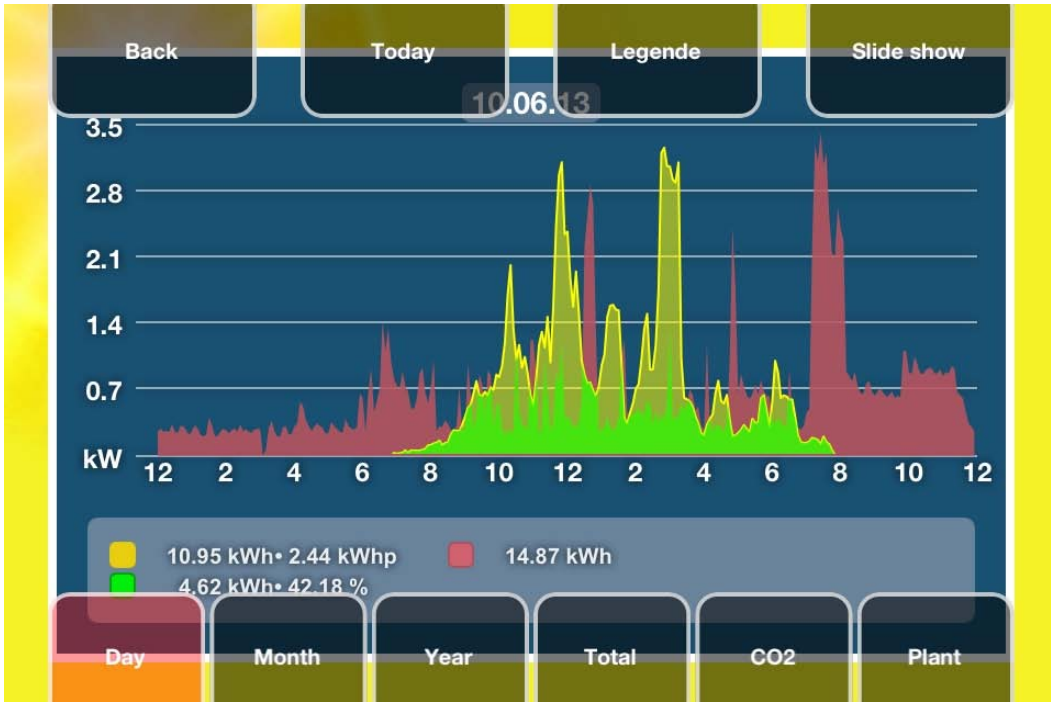



Fig.: Screen with the top and bottom menu selection

2. Select Slide Show from the top menu bar.
   - Now you can always see the current values.

# 8 Cleaning and care

## 8.1 Cleaning tips

Important:

Be sure to unplug the device prior to cleaning it!

- Clean the device on the outside only with a dry, lint-free cloth.
- If the device is very dirty, it can be cleaned with a slightly damp cloth and a commercially available household cleaner.

Important:

When cleaning, make sure that no moisture gets into the device!

## 8.2 Care tips

- Make sure that the device is not exposed to any moisture at the location where it is kept.
- Make sure that the device is not exposed to any heat or strong sunlight at the location where it is kept.
- Please take note of the Technical Data.

# 9 Notifications on the LCD Status Display

The Solar-Log 300, 1200 and 2000 have an LCD Status Display for notification on the during installation and operation.

## 9.1 Meaning of the symbols on the LCD display

The following symbols are shown on the Solar-Log™ LCD display.

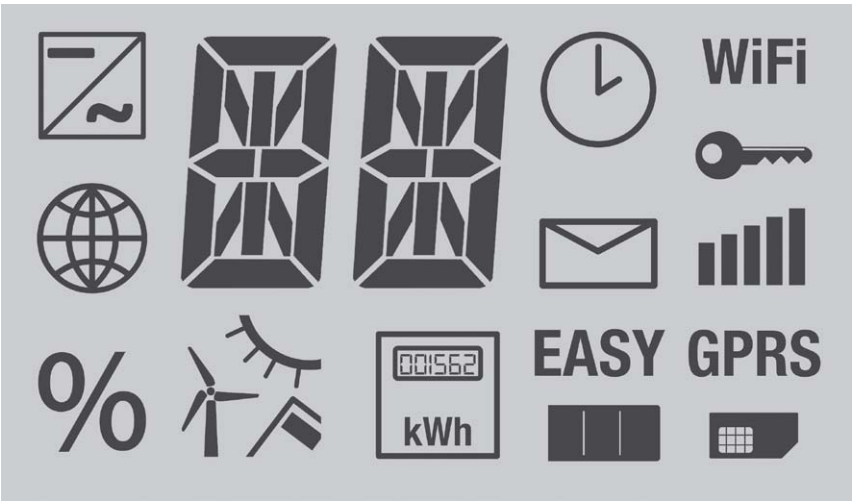



Fig.: LCD Status Display with all of the symbols

Meaning of the symbols on the LCD display

| Symbol | Meaning |
|---|---|
| | Inverters |
| | Internet or Network |
| | Firmware update progress |

| | |
|---|---|
| | Sensors for<br>- Irradiation<br>- Wind<br>- Temperature |
| | Meter |
| | Booting progress |
| | SIM card |
| | Easy Installation active |
| | GPRS available |
| | Notifications from the Solar-Log™ |
| | Signal strength<br>in combination with GPRS,<br>WiFi or Bluetooth |
| | Encrypted WiFi connection |
| | Wireless internet. |
| | Time |
| | Input box for fault codes |

Note!

Please refer to the chapters “Notifications on the LCD display,” “Fault messages” and “Faults” in the Installation Manual for more explanation on the LCD Status Code.

# 10 Disposal

Important:

Solar-Log™ contains electronic components that can release highly toxic substances if burned or disposed of along with domestic waste.

Note!

Make sure you dispose of the Solar-Log™ as electronic scrap in the recycling center.

# 11 Technical Data

| | Product comparison | Solar-Log 300 | Solar-Log 1200 | Solar-Log 2000 |
|---|---|---|---|---|
| Basic functions | PM+ (2) | ● | ● | ● |
| | PM+/WiFi (2) | ● | ● | - |
| | PM+/GPRS (2) | ● | ● | ● 4) |
| | Bluetooth (BT) (2) | ● | ● | - |
| | WiFi (wireless LAN) (2) | ● | ● | - |
| | Bluetooth (BT)/WiFi (2) | ● | ● | - |
| | GPRS (2) | ● | ● | ● |
| | Solar-Log™ Meter (CT) | ● | ● | - |
| | Central inverter SCB and SMB | - | - | ● |
| | Communication interface | 1 x RS485 / RS422 (1 INV manufacturer per bus) | 1 x RS485<br>1 x RS485 / RS422 (1 INV manufacturer per bus) | 1 x RS485, 2x RS485 / RS422, 1 x CAN (1 inv. manufacturer per bus) |
| | Max. plant size | 15 kWp / 1 INV. manufacturer | 100 kWp / 2 INV. manufacturer | 2000 kWp / 3 INV. manufacturer |
| | Max. cable length | max. 1000 m 1) | max. 1000 m 1) | max. 1000 m 1) |
| Plant monitoring | String monitoring (depending on inverter type) | ● | ● | ● |
| | Inverter failure, status of fault and power monitoring | ● | ● | ● |
| | Sensor system connection (irradiation/ temp./ wind) | ● 3) | ● 3) | ● 3) |
| | E-mail and text message (SMS) alert | ● | ● | ● |
| | Alarm (local) | - | - | ● |
| | Yield forecast and degradation calculation | ● | ● | ● |
| | Self-produced energy consumption: Digital electricity meter | ● | ● | ● |
| | Self-produced energy consumption: Managing external appliances | ● | ● | ● |

| | Product comparison | Solar-Log 300 | Solar-Log 1200 | Solar-Log 2000 |
|---|---|---|---|---|
| Visualization | Integrated web servers | ● | ● | ● |
| | Graphic visualization – PC local and Internet | ● | ● | ● |
| | LCD Status Display | ● | ● | ● |
| | Display on the unit | - | 4.3" TFT color display | 4.3" TFT color display |
| | Controls on the unit | - | via touch screen | via touch screen |
| | Large external display RS485 / $S_0$ pulse | ● | ● | ● |
| Interfaces | Ethernet network | ● | ● | ● |
| | USB flash drive | ● | ● | ● |
| | Potential-free contact (relay) | - | ● | ● |
| | Alarm contact (anti-theft) | - | - | ● |
| General Data | Power supply voltage/device voltage/current consumption | 115 V – 230 V / 12 V / 3 W | | |
| | Ambient temperature | -10 °C to +50 °C | | |
| | Housing / dimensions (W x D x H) in cm Mounting / protection level | Plastic/22.5 x 4 x 28.5/Wall-mounted/ IP 20 (indoor use only) | | |
| | Connection to Solar-Log™ WEB "Commercial Edition" | ● | ● | ● |
| | Multi-lingual (DE, EN, ES, FR, IT, NL, DK) | ● | ● | ● |
| | Memory, Micro SD card, 2 GB, endless data logging | ● | ● | ● |
| | Warranty | 5 years | | |

1) Depending on the inverter used, and the cable length (details can also vary from one type of device to another).
2) Other important information about Bluetooth and compatibility, Power Management, self-consumption and SCB and SMB inverters can be found on our website www.solar-log.net.
3) Using every inverter on the same bus is not always possible, see the inverter database www.solar-log.com
4) Solar-Log 2000 PM+ / GPRS interfaces: 1 x RS485, 1 x RS485 / RS422, 1 x CAN (1 INV manufacturer per bus)

| Accessories | Solar-Log 300 | Solar-Log 1200 | Solar-Log 2000 |
|---|---|---|---|
| Accessories | Ready-to-install cable kits for most supported inverters | | |
| | Digital electricity meter | | |
| | PowerLine Package | | |
| | RS485 Wireless Package | | |
| | Sensors | | |
| | Surge protection | | |
| Accessories for SMA inverters | Special PiggyBack RS485 (except TL-20 series) | | |
| | Data Module SMA RS485 | | |

| Top Features | Solar-Log 300 | Solar-Log 1200 | Solar-Log 2000 |
|---|---|---|---|
| LCD Status Display | Status display for installation and operations | | |
| Easy Installation | Installation is possible without PC and installation expertise. | | |
| | The inverter detection and Internet registration is enabled by default and is started automatically. | Query for additional information, then automatic inverter detection and internet registration. | - |
| Network recognition | Automatic search for the DHCP server and assignment of a valid IP address in the local network. | | |
| Local network accessibility | Registration is done with its name. The IP address of the Solar-Log™ no longer needs to be known, unless there are several Solar-Logs on the network.<br>The Solar-Log™ can be accessed directly from a web browser with this address: http://solar-log. | | |
| Additional functions | Monitoring, optimization and managing of self-consumption with a fixed regulation of active power including the calculation of self-consumption. | | |
| | Evaluation of Sensor Box Commercial data | | |
| | - | - | Monitoring of central inverters |
| Solar-Log™ Meter | Monitoring, feed-in management and power meter. | | - |
| Support for the Solar-Log™ SCB/SMB | - | - | Individual string monitoring |
| Solar-Log™ PM+ functionality | Remote controlled active power reduction and reactive power adjustments | | Monitoring large plants with the support of the Solar-Log 2000 or Solar-Log 2000 PM+ with active power reduction and reactive power control along with response signals. |

| Article Number | Solar-Log 300 | Solar-Log 1200 | Solar-Log 2000 |
|---|---|---|---|
| Standard | 255574 | 255591 | 255592 |
| BT | 255577 | 255585 | - |
| WiFi | 255576 | 255584 | - |
| BT / WiFi | 255578 | 255586 | - |
| PM+ | 255579 | 255587 | 255594 |
| PM+ / WiFi | 255580 | 255588 | - |
| GPRS | 255575 | 255583 | 255593 |
| PM+ / GPRS | 255581 | 255589 | 255595 |
| Solar-Log™ Meter (CT) | 255582 | 255590 | - |

| | Interfaces | Solar-Log 300 | Solar-Log 1200 | Solar-Log 2000 |
|---|---|---|---|---|
| Inverter interface | RS485/RS422 – interface usage | RS485 / RS422 – combined interface usage | RS485 – interface, RS485 / RS422 – combined interface usage | RS485 A – interface, RS485 / RS422 B – / RS485 / RS422 C* - combined interface usage |
| | | | Inverter connection | |
| | RS485 – interface usage | Connection of a Sensor Basic to record environmental data (irradiance and module sensor) | Connection of a Sensor Box Commercial to record environmental data (irradiance, module and ambient temperature, wind sensor) | |
| | | Connection of meter for self-consumption according to IEC 60870 | | |
| | | Connection of the display panels produced by Schneider Displaytechnik, Rico or HvG | | |
| | | - | - | Connecting the Utility Meter and I/O Box for PM remote control technology |
| | RS422 – interface usage | RS 422 Fronius / Sunville connectible without additional interface converters | | |
| | CAN bus | - | - | For the connection of e.g. Voltwerk inverters |
| Additional function interfaces | 2x $S_0$ In / 1x $S_0$ out | $S_0$ pulse input – for optional recording and calculation of self-produced power consumption. | | |
| | | 2 input to connect an additional power meter | | |
| | | $S_0$ pulse output to connect large external displays, pulse factor can be set to any value | | |
| | Relay | - | Relay for external switch control, e.g. heat pumps | |
| | Alarm | - | - | Connection for anti-theft protection via contact loop for external alarms via potential-free contact |
| | USB connection | To access data | | |
| | | Import firmware updates at plants | | |
| | PM+ interface (optional) | PM+ (Power Management) | | |
| | | For connection of a ripple-control receiver to regulate the plant | | |
| | | Fulfills the EEG 2012 requirements | | |
| | Solar-Log™ Meter (optional) | Current measurements via transformers (extra accessory) up to 2 x 3 phases or 6 single phases | | |

| | Interfaces | Solar-Log 300 | Solar-Log 1200 | Solar-Log 2000 |
|---|---|---|---|---|
| Net-work | Network | Connection to the internet (Ethernet, fixed IP address or DHCP) | | |
| | GPRS (optional) | Antenna connection and SIM card slot for Solar-Log™ with integrated GPRS | | |

* not with GPRS models

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